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Investigated were the problems of college students who have cerebral palsy, and the barriers which may confront them during post-college employment years. investigated: (1) situations encountered in college, and the methods used to overcome difficulties; (2) the student's evaluation of a college education, and (3) the effect of educational experiences and personal characteristics on post-college employment. A group of young cerebral palsied college students provided the data, describing their post-college and employment experiences. The responses of these individuals were tabulated to secure normative data or permit comparisons with findings from other college student groups. Personal, educational, and vocational characteristics of these students were compared with those of nonimpaired students. Personal, educational, and vocational characteristics of those cerebral palsied students employed in jobs related to education were compared with those employed in jobs not related to education. The major findings and implications are discussed in terms of (1) student characteristics, (2) college problems, (3) education and employment, and (4) parental attitudes. The instruments used in this series of studies and tabulations of statistical findings are appended. (AUTHOR/IM)

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cerebral palsied college students

their education and employment

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PREFACE

These studies were suggested by Drs. Boyd McCandless and James F. Garrett in 1958, then members of the Advisory Board of the United Cerebral Palsy Research and Education Foundation and have been a research activity of the senior author since 1959. This report includes much unpublished material and incorporates the findings of several dissertations, theses and articles resulting from our studies of the cerebral palsied college student. Experiences and problems of these students in college and the impact of college upon their lives and futures are reflected herein.

Support from The United Cerebral Palsy Research and Education Foundation provided initial impetus for the study and subsequent assistance from the Social and Rehabilitation Service made possible the continuation of the study and the final employment follow-up study. We are grateful to Drs. William M. Usdane and James F. Garrett for their continued support of this effort.

Contributions to this study came from many colleagues, students and clerical assistants. We especially want to thank Drs. R. Waldo Hansen and Jerold Bozarth for their substantial contributions to the data gathering and processing. Dr. Leonard A. Miller gave considerable assistance with statistical problems and computer data processing. Among the many assistants who materially contributed to this study we especially wish to thank George Allen, Mrs. Sandra Marsh, Victor Neilson, and Walter Reed.

We are especially grateful for the many valuable suggestions and editorial assistance provided by Miss Sue Guyon. Her talent and enthusiasm enabled us to persist in molding an immense volume of data into a readable report which reflects the significant aspects of both the initial and follow-up studies.

Not the least of the contributors to this study were the college students who shared their problems, hopes, and experiences with us. Without their considerable help and continued interest this report would not have been possible. We apologize to them for the delay in bringing this study to fruition and can only hope that the information it provides will alleviate to some degree the problems and barriers faced by future students with cerebral palsy who enter college.

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June, 1968

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Significant Findings for the Rehabilitation Worker

1. A cerebral palsied person who has the intellectual and physical capacity to attend college can secure admission to college and do college work. His choice of institutions may, however, be limited to those that have minimized the architectural barriers to the disabled.

2. Attitudes of CPCS toward college experiences and education are much like those of non-impaired students. The CPCS show marked individual differences in capacities to handle both the intellectual and physical problems of college.

3. Educational progress of CP students lags at all points, when compared with non-impaired students. CP's require more time to complete both undergraduate and graduate study programs and progress more slowly in their careers.

4. The CPCS make greater use of available counseling and guidance services. Personality inventories and interview statements of CP students indicate they experience greater difficulties in college than non-impaired students and need additional counseling assistance.

5. This student group did not use state vocational rehabilitation services as much as one might expect. Those who worked with a rehabilitation counselor infrequently listed him among those advisors who had been most helpful.

6. CPCS need to develop individualized adaptive techniques for coping with the basic skills required in college. Counselors, advisors, and parents should assist the CP in developing adaptive procedures to meet college demands.

7. Compared to non-impaired students, CPCS have relatively few exploratory work experiences; efforts should be made to create opportunities for such experience.

8. Nearly all CPCS who attended college and responded to the follow-up inquiry were employed. Compared to non-impaired students fewer CP's work in professional, technical, and managerial jobs. They also tend to earn less.

9. CPCS who followed a vocationally oriented college program were more often employed in work similar to their training, liked their work more, and had fewer adjustment problems than did those who took non-vocationally oriented programs.

10. The major frustrations felt by parents of cerebral palsied college youth resulted from: attempts to provide adequate social opportunities for their child; requirements of the physical impairment itself; a lack of personal knowledge about cerebral palsy; and the lack of facilities and information.

CHAPTER 1

INTRODUCTION

Increased college enrollments have resulted in even sharper increments in the number of severely handicapped youth seeking the benefits of a college education. Among the handicapped are the cerebral palsied -- a small, usually ignored segment of the college-bound population. Neither the cerebral palsied youth nor his parents or counselors have been able to anticipate and plan for the unique problems he will encounter in college. Rehabilitation and college counselors, college student personnel workers, and teachers and administrators have had to grope for a means to understand his special needs and problems. It is not suggested that college matriculation presents the only problems facing the college going cerebral palsied person. He will endure physical and social problems from birth to death, and the physical limitations imposed upon him by the cerebral palsy diagnosis are considerable. Solutions to problems are provisional and limited. Guidelines are few. The cerebral palsied and those close to him are caught in a miasma of indecision regarding education and employment, the two areas with with which this study are concerned.

This report includes two major studies and a series of completed research projects dealing with the college and post-college experiences of the cerebral palsied individual, conducted within the past six years. A wealth of information has emerged to provide counselors, parents, educators and the cerebral palsied persons themselves with a wealth of information providing guidelines for the education and employment of these handicapped youth.

The study of the cerebral palsied college student (CPCS) began at the University of Iowa in 1959; the follow-up study of employment was completed in 1967. Since 1959 the following areas have been extensively studied: attitudes of the CPCS, sources of help, adjustment utilizing the MMPI, relationships between observable physical disability and selected pertinent interpersonal perceptions, college adjustment and post-college employment. Compilation of this information provides the counselor with knowledge for more effective counseling interaction through basic guides to the rehabilitation of the CP during and after college. The information also provides a source of information for the parents of cerebral palsied children in their constant effort to find help and reassurance for the future of their CP child.

In studying the cerebral palsied college student, many problems pertinent to his vocational rehabilitation have emerged: his need to utilize more diversified sources of help during his early educational years and continuing through college; his recognition of DVR as essentially a source of financial assistance; the greater amount of worry on the part of the male cerebral palsied college student, compared to the female, regarding college and post-college years; and his feelings of seclusiveness and inferiority which could have damaging repercussions in terms of his post-college employment.

Need for This Research

Since little is known by college personnel workers or teachers about this group, one might justify such a study solely on the basis of its exploration of the unknown. However, we had more practical interests and concerns. The improved programs of special education in public schools and the increased acceptance of groups such as the cerebral palsied have given more of this group the perparation needed to cope with college. But, because of the dearth of information and because caseloads contain relatively few college-going CPs, rehabilitation counselors usually have limited experience or normative data upon which to base decisions or make recommendations. This is even more true of college counselors and personnel workers who may not have met or aided any CPCS. Hopefully, information secured in this study will enable all these groups to work more intelligently with CPCS in planning for college and meeting the problems faced there. In many instances, it may dispel the anxieties which CPCS may have in facing a new, and possibly less hospitable, environment; and, again, it may allay some of the apprehensions of counselors and college personnel workers by providing an increased understanding of this group.

Our society has placed pre-eminent value upon gainful employment. Should this also be a widely accepted achievement goal for the cerebral palsied person, or should he be encouraged to seek the more general goal of self-development? Is it better to train a person who has cerebral palsy for a specific job, in which he may, hopefully, earn a living, or is it better to help him pursue a liberal arts program? These are questions rehabilitation counselors face daily. Accelerated technological changes have complicated the problems of the cerebral palsied through an increased emphasis on learning how to learn, as new skills need to be developed, and old ones revamped or discarded. This development may bring long-range, vocationally oriented education closer to the general education pattern or vice versa.

The cerebral palsied individual who desires a college education, may possess the intellectual capacity and curiosity to secure one, but this may not be enough. The expense of a college education represents only a minor barrier to the cerebral palsied person who is able to meet the intellectual, physical-mobility, and communication skills requirements of the state-federal vocational rehabilitation program. He must also be able to meet the physical demands associated with attending college.

Although definitive information regarding the number of CPs who might benefit from college is not available, Cardwell (1956) reports that 25 to 30 per cent of persons who have cerebral palsy have intelligence in the normal range. Assuming that this group includes individuals of college caliber to the same extent as the general population, then approximately ten per cent of [illegible] cerebral palsied population have the intellectual capacity to attend college. Even this may be an overestimate. The social and cultural conditions frequently associated with cerebral palsy may also be expected to influence intellectual development. It is difficult to estimate the number of cerebral palsied persons who, besides having the intellectual capacity required for college attendance, have the physical capacity to cope with the academic setting and requirements.

Our initial studies of CPCS revealed that the severity of physical involvement was approximately one-third mild, one-third moderate, and one-third severe. That survey also estimated that 50 per cent of the severely involved group having the intellectual capacity, lack the motor coordination to attend college. What this means in numbers may be estimated from the United Cerebral Palsy Association's 1956 figures of the incidence of cerebral palsy in the United States. UCPA estimates a cerebral palsied population of 550,000. Therefore, those within the normal range of intelligence would total 165,000. Using our assumptions, about 50,000 persons with cerebral palsy are estimated to have both the intellectual and physical capacities to benefit from college.

In recent decades rehabilitation programs have placed more and more emphasis on assisting the severely disabled. Our society's demands for "total" rehabilitation of the nation's handicapped have increased. However, few guidelines are available for college personnel concerned with counseling and guidance of the severely impaired college student (Rusalem, 1962; Tucker, 1964). There are no specific guidelines for the cerebral palsied. The person who has cerebral palsy is a member of our society, with the same rights and responsibilities as an unimpaired citizen. To exercise these rights and responsibilities, the cerebral palsied must have, or develop, skills, knowledge, and personal traits which will enable him to participate in our society. Such tools may become available through a college education.

Whether it is better to train a CP for a specific job, or send him to college to enhance his employment potential as well as his self-actualization is a major question of this study. Although a number of studies relative to the employment of the CP are in existence, few have delved as deeply into the background, development and attitudes of the individuals studies as does this research. A unique aspect of this report is the inclusion of data about early childhood development, education, parental attitudes, parental expectations, faculty opinion, and physician diagnosis through college and during employment. This data contributes to rehabilitation theory by the very fact of its longitudinal dimension, and rehabilitation practices through the relationships which may be drawn from the study of the CP's early life, the intervening years up to and including college planning, through college, and during employment.

In this intensive study of a group of young adults with cerebral palsy who have attended college or university, we have gathered data regarding the developmental factors which have had a bearing on the decision to attend college and the ability to cope with college demands. We have also been concerned with the impact of college on the CP youth, e.g., how it has influenced his values, what his college experiences have been, in what ways he has coped with the work requirements of college, and its effect on his employability or job goals. These data provide basic information which may assist cerebral palsied youth to make sounder decisions concerning the rehabilitative value of higher education.

The employment problems of the cerebral palsied individual concern not only himself, but parents, physicians, educators, school and employment counselors, rehabilitation counselors, rehabilitation centers, sheltered workshops, and state and federal rehabilitation programs.

Following a period of employment, or a time lapse during which employment may have been secured, we continued to study this same group. Six years elapsed between the time original data were secured and the follow-up data accumulated. During that six-year period, each student should have graduated from college and secured, or attempted to secure a job. Developments and changes in work and personal situations may have affected employment, job satisfaction and general life admustment. Comparisons were drawn between the results gathered in the early questionnaire and the follow-up. Attitudinal changes, such as anticipated changes in ideal job satisfactions, were investigated. From other studies, we anticipated half of the CP college students to be employed, affording a substantial study group for our research. As in any definitive study, we felt it important not to lose sight of the individual, and efforts were made within the questionnaire to afford individualized expression through the use of open-ended questions.

In past situations, when employment was the criterion for successful rehabilitation, those with cerebral palsy, as a group, were not successfully rehabilitated. Various investigators have reported employment rates of 20 to 33 per cent for adults with cerebral palsy (Cardwell, 1956), but there are few data for those who attend college.

Statement of the Problem

Although the existence of diagnostic material for the cerebral palsied person is recognized, there has been an appalling lack of demographic information, which has made it impossible to offer rehabilitation counselors guidelines for effective counseling interaction with cerebral palsied persons. Even less information was available to assist the cerebral palsied person in making a decision to attend college, and once the decision was made, little help was available to assist him in planning and successfully executing a college education. This research, bearing on such basic problems, explored such major questions as: How does a cerebral palsied person gain admission to college? What problems does he encounter? What solutions does he find? How does he feel about his college experiences? What does he gain from them?

Extending further into the life of the cerebral palsied person, findings were correlated with a study of employment of post-college cerebral palsied students, presenting an organized attach on the vocational problems facing severely handicapped individuals.

Employment was considered within the framework of five areas:

1. Vocational orientation of college major field . . . the degree to which major study of CPCS was oriented to future employment.
2. The Employment Relatedness Scale. The rated degree of relationship between present occupation and educational preparation.
3. Job Satisfaction. The degree of expressed satisfaction with employment as measured by the Hoppock Job Satisfaction Blank, Kates (1950.
4. Changes in Attitudes. The measured degree of attitude change between administration of the pre-interview questionnaire and the follow-up questionnaire.
5. Comparison with non-impaired college students. A control group of 78 non-impaired college students are compared on selected variables with the CPCS.

CHAPTER II

REVIEW OF RELEVANT LITERATURE

Literature selected for review includes studies pertaining to college students in general which also bear upon students who are severely handicapped, studies directed specifically toward the problems of the CPCS, and information about cerebral palsy. Each study, as it is reviewed, is related directly to the employment of the cerebral palsied student.

General

Jaffe and Adams

Studies of the American college student are too numerous to be thoroughly reviewed here; therefore, this review will necessarily be selective and abbreviated.

Virtually all parents today want their children to go to college; and according to Jaffe and Adams (1964), parents are far more optimistic than are their children about going to college. These authors suggest that perhaps some parents blindly overestimate the abilities of their children. Others, realizing there should be an economic and social advantage in college attendence, plan for their children to go, and still other parents are trying to fulfill their own wishes to attend college through their children. In any event, the authors state that significantly more parents plan college attendence for their children than do the high school students themselves.

Much larger proportions of white collar families plan college attendence for their children than do farm families or families of unskilled workers. The proportions decrease with the increase in age of the children, and increase with greater parental education and economic status.

Haveman and West

It is well accepted and also documented that men who graduate from college hold a higher percentage of professional, managerial, and executive positions than do men who do not graduate. Haveman and West (1952) also found that clerical and sales jobs are held by similar proportions of graduates and non-graduates. Non-graduates hold more skilled and farm jobs than do graduates.

"Going to college involves all kinds of pre-selection", assert Haveman and West (1952). They further state that college graduates tend to come from families of above-average economic status and have all the various social and cultural benefits that accompany greater wealth. Moreover, they possess better than average intelligence. Thus, in every respect, college graduates start life with a considerable advantage over the average man.

Factors of pre-selection are even more evident in the cerebral palsied population, according to Cardwell (1956). Only a small percentage have the requisite intellectual capacity to attend college, and this proportion is further reduced by those who are physically unable to participate in campus life.

Goldson

The choice of a vocation: In choosing a career, most students expect their work to provide a source of satisfaction second only to the satisfaction they expect to get from family relationships, according to Goldson, et al (1960).

College students, when asked to rate the satisfactions they expected to receive from future jobs, rated job characteristics in the following order: (1) permits me to be creative and original, (2) uses my special aptitudes and abilities, (3) permits me to be helpful to others, (4) permits me to work with people rather than things, (5) gives me status and prestige, (6) gives me a chance to earn a good deal of money, and (7) offers me a stable, secure future.

Goldson goes on to state that students have an idea of the distinctive demands and rewards characteristic of each occupational field. In selecting their careers, they try to pick a field of work that, as they see it, provides rewards and makes demands that are compatible with their own values; that is, they have an ideal "occupational image".

The more vocationally oriented a college education, the more help it is in an occupation, is the belief expressed by most college students in the studies reviewed. Haveman and West (1952) reported that over 70 per cent of all graduates indicated that a college education was helpful in their occupation. Those who rated their college education as most helpful had studied medicine, dentistry, law, pharmacy, and other vocationally oriented curricula. Those who pursued curricula in the humanities, fine arts, and the social sciences reported their education to be less helpful in their occupation.

Pace

In terms of vocational satisfaction, the typical employed man or woman does not "love" his job; rather, he "likes" it. In fact, he "likes it most of the time", according to Pace (1941). Although not eager to change his job, he would do so if he could get a better one. Even so, he feels he likes his job better than most people like theirs.

This degree of satisfaction, typical of workers in professional, white collar, and skilled manual jobs, is considerably higher than the degree of job satisfaction among unskilled laborers (Hoppock, 1935). Pace found that women who worked were about as well satisfied as men. An earlier study by Super (1939) and a later study by Centers (1952) confirmed the basic results of pace's 1941 study. Campbell (1963) reported that 90 per cent of both men and women workers express satisfaction with their present occupation.

The Disabled College Student

In recent years, colleges have shown an increased interest in the problems of the severely impaired college student. Several academic institutions have substantially modified their physical plant and developed architectural standards to accommodate these students. The programs at the University of Missouri, the University of Illinois, and Southern Illinois University also include services which permit optimum use of college facilities by the severely disabled. Other universities have established specialized student personnel services and investigated the special needs of impaired studnets.

The work of Condon (1957) at the City College of New York, Tucker and his associates (1964) at Emporia State Teachers College in Kansas, and the program at Southern Illinois University (Fife, 1960), Oklahoma State University (1960) and The University of Illinois (Nugent, 1960) are outstanding examples of colleges which provide services and physical plant to facilitate "going to college" for the severely impaired.

Rusalem

Another illustration is the guidebook by Rusalem (1962) which provides sound background information for college personnel workers who work with the impaired.

Condon

College-trained, disabled persons can compete with the non-disabled individual (Condon, 1957). The ten-year survey of disabled college students at New York City College also revealed that, given the opportunity and training to utilize abilities, disabled students can satisfactorily perform in their chosen occupations.

Mase and Williams

A comparison of the occupational success and personal adjustment of 243 severely disabled college graduates with that of 224 severely disabled high school graduates was reported by Mase and Williams (1962). Studying the effects of a college and high school education on employment and personal adjustment, they concluded:

(1) A college education contributes significantly to the occupational success of the disabled. The severely disabled college group rated higher than the severely disabled high school group on the following criteria of occupational success: employment status, self-support, income, type of occupation, work satisfaction, ease in obtaining a job, and occupational history. Mase and Williams stated that it was not possible to find similar data for non-disabled persons with the same education and within the same geographic limits of the study for all criteria of occupational success. However, within the limits of what they did find, it appeared that:

(a) a much higher percentage of disabled college students entered the teaching profession.

(b) both the college and high school disabled students have an unusually high degree of job stability.

(c) a much higher percentage of the disabled are employed by government agencies.

(d) in no instance did a disabled college graduate receive less pay than a non-disabled college graduate for the same type of employment.

(2) A college education contributes significantly to the personal adjustment of the severely disabled.

(3) Occupational success and personal adjustment of severely disabled college graduates are not related to type of disability, extent of involvement of disability, or age of occurrence of the disability. The authors concluded that a disabled person's "ego strength" -- especially his degree of independence -- is the primary criterion for successful occupational and emotional adjustment.

The Cerebral Palsied Individual

Derse

Derse (1950) indicates that the physical limitations of cerebral palsy complicate the emotional life of the child, and that parental attitudes are an important aspect of the child's emotional adjustment. Smart (1953) concurs, and adds that many problems of the child are a reflection of the parents' attitudes and problems, since the maturity and emotional reactions of the cerebral palsied child are largely a reflection of the degree of love, affection, and security he receives from his parents.

Wolfe and Reid

Less than 10 per cent of the cerebral palsied population have the intellectual capacity to attend college. Both Hohman and Freedheim (1958) and Wolfe and Reid (1958) point out that over 50 per cent are mentally retarded, and many of the remaining are constrained by severe physical limitations. Wolfe and Reid indicate that only 5.5 per cent had attended college for one or more years; and only four-tenths of one per cent had completed a master's degree.

Fleischer

The cerebral palsied high school graduate should be given the opportunity to attend college, according to Fleischer (1953), "provided there are positive answers to three major questions:

(1) If this individual were not handicapped would he be college material?

(2) Will college be a subterfuge presented to prolong the interval until this individual must meet the competitive world?

(3) Will guidance activities directing this individual toward college be accompanied with modest vocational goals?"

Deaver

In Deaver's (1949) opinion, "Physical rehabilitation, educational or vocational training is valueless, even emotionally harmful, if it cannot be used in the manner for which it was intended." Deaver recommends objective evaluation of the individual cerebral palsied person. He believes that speech and the use of the hands are of prime importance for college attendance. He states that colleges which accept cerebral palsied students who cannot write or speak adequately only add to the problems of these students. Special consideration given the cerebral palsied by faculty fosters later problems, because special consideration is not extended by profit-motivated employers. Deaver suggests that vocational decisions for the cerebral palsied should first be made on the basis of physical ability to do the job.

Whitehouse

College is not a retreat for the cerebral palsied, according to Whitehouse (1950). He offers suggestions to counselors, parents and educators concerned with the guidance of cerebral palsied persons. Counselors should have experience in dealing with disabled students, considering them as individuals, and carefully assessing scholastic achievement. Counselors should understand the impact of cerebral palsy on the emotional and environmental deprivation of clients in order to avoid discouragement or overoptimism. The person who has cerebral palsy requires the physical and emotional capacity to profit and grow in the academic setting. Whitehouse also observed that the cerebral palsied person requires more intelligence than the average college student, and that his note-taking, study, and reports take longer. He cautions that college will not compensate for many things that parents couldn't do for their children, and may be the worst thing for an overdependent cerebral palsied son or daughter, and further cautions colleges to accept only those cerebral palsied persons who have the basic skills to contribute to and prepare for a happy, productive, independent life after college.

Glick and Donnell

Several studies of placement and job experience show that few cerebral palsied persons are successfully employed. Of the 200 cerebral palsied persons interviewed by Glick (1953) and Glick and Donnell (1953), only 42 per cent were employed. In this group, which ranged in age from 18 to 45 years, 49 per cent were spastic, 29 per cent athetoid, and 22 per cent ataxic or unclassified; functional difficulties ranged from mild (29), through moderate (51), to severe (120). Speech problems severe enough to be an employment factor were found in 80 per cent of the surveyed group.

Glick and Donnell concluded that employment problems came from three major sources:

(1) limitations imposed as a result of physical and/or mental disabilities and emotional problems.

(2) inadequate vocational guidance and preparation for job placement.

(3) employer resistance, due either to lack of knowledge or prejudice, to hiring those who have cerebral palsy.

Since more young people than older persons were employed, the authors concluded that the recent availability of more and better therapy made the difference in employment for the younger group. Thirty-three of the 200 surveyed attended college, but only two of the 33 used their college education in appropriate employment. They also found that 24 of 33 college graduates could not perform satisfactorily in their major college field, because of physical limitations. For example, three persons who majored in clinical psychology could not administer psychological tests, or do any type of counseling because of speech defects. Two journalism majors were unable to write or use an electric typewriter. Nine of the college graduate group were employed but were not materially more employable because they had a college education.

Glick and Donnell (1953) concluded that a large proportion of college-going CP adults should not have been encouraged to matriculate solely for vocational reasons, and suggested the following tentative criteria for college entrance:

(1) mental ability necessary to succeed in college.

(2) ability to perform tasks related to activities of daily living.

(3) an effective means of communication.

(4) a college program selected for its vocational preparation or related to some other useful goal.

(5) sufficient motivation to carry out his plans.

Glick's study suggested that pre-college preparation was an even more critical determinant of college success for the CPCS than for the non-impaired students.

Curtis

Curtis (1953) studies 202 cerebral palsied job applicants for job placement by the New York United Cerebral Palsy Association. Curtis concluded that the degree of involvement of disability was relatively unimportant provided a selected placement was effected, yet only 25 per cent were successfully placed, and 39 out of 202 were not acceptable for employment for various reasons.

While Curtis did not report on the educational level of his vocational placement group, some of his observations are of interest. About one-fourth of the CP registrants were placed, with about 60 per cent in semi-skilled, 20 per cent in skilled, and 20 per cent in unskilled work. It was his impression that many needed extended counseling and psychotherapy; that the family needed to be helped as well as the applicant; and that CPs often lacked the rudiments of job seeking, such as proper grooming and a correct approach to an employer.

Orndorff

Orndorff (1949) studied 2,689 placements of persons with cerebral palsy by state vocational rehabilitation agencies between 1944 and 1948. He found that 11 per cent were classified as professional, managerial, or semi-professional, 35 per cent as clerical or sales, 12 per cent as service occupations, five per cent agriculture, 14 per cent skilled, 13 per cent semi-skilled, eight per cent unskilled, and two per cent unpaid family workers.

Wolfe and Reid (1956) found in their survey that of those who were working, 25 per cent were employed in professional or managerial jobs, 19 per cent in skilled and semi-skilled occupations, 18 per cent in agriculture and kindred, 17 per cent in clerical and sales positions, and 9 per cent in unskilled jobs. Salaries ranged from $50 to $6,200 annually, with a mean of $2,742 and a median of $1,500. Seventy-four per cent had obtained their jobs through their own efforts, and the majority of those employed had completed high school.

Fleischer (1953) states that many adults with cerebral palsy are unhappy because they cannot use their vocational education. To ameliorate this problem, he suggests that the following principles be applied in the guidance processes directed toward the cerebral palsied:

(1) Active participation of the CP in planning, so that his wishes may be expressed and respected.

(2) Direction toward realistic goals.

(3) Satisfactory adjustment to goals.

(4) Compensatory activities to aid in self-realization.

(5) Encouragement to meet competition in physical, social, recreational, and emotional areas.

(6) Instruction in the implications of work habits, quality of work, and perserverance on the job.

(7) Evaluation of adjustment procedures that begin early in life.

(8) Education and guidance of subject's parents.

(9) Cooperation and coordination of all disciplines involved in the CP's problems -- medical, educational, vocational, or psychological.

Berko and Berko

Berko and Berko (1956) sent questionnaires to 2,143 cerebral palsied adults. Of the 591 who responded, over two-thirds were unemployed, 15 per cent had attended college, and about five per cent pursued university graduate work. They found a Pearsonian correlation coefficient of .73 between amount of schooling and employment.

In the college graduate group, more than 50 per cent of those majoring in vocationally-oriented majors were employed, as contrasted with only 27 per cent of those majoring in general arts. Though education seemed to help gain employment, college attending CPs appeared to have a marginal status since their mean salary was less than one-half of those in the general population with similar educational status. They also reported that CPs who majored in physical, biological, and behavioral sciences, and in educational and social work, did better financially on their jobs than those majoring in social science, business administration, fine arts, and general arts. About 40 per cent obtained their jobs through friends or relatives, and almost two-thirds expressed complete satisfaction with their employment. Thirteen per cent had received some on-the-job training; 26 per cent had received some aid from the Division of Vocational Rehabilitation; and 30 per cent had received educational and vocational guidance. Of the 173 CPs who received vocational guidance, the greatest number were advised to enter the clerical occupations, next the unskilled and domestic occupations, and 22 of them were "told" to choose creative writing as a career. Sixty per cent had not held a job other than their present employment at the time of the survey.

Although respondents' bias may have seriously distorted these results, they represent some of the best data available at the time our research was initiated.

Moed

The Institute for the Crippled and Disabled conducted a study of personal and social factors influencing the employment of the cerebral palsied (Moed, 1959). Several characteristics which distinguished the employed group from the unemployed group include:

(1) ability to travel independently.

(2) type of previous educational experiences.

(3) ability to communicate.

(4) manual dexterity.

(5) ability to adjust to the demand of the work situation.

Severity of disability and measured intelligence were not significantly related to employment. Moed suggested three services which might enhance the adjustment and employment potential of the cerebral palsied:

(1) pre-vocational evaluation.

(2) sheltered workshop.

(3) vocational training.

The findings suggest that demands of college and employment are somewhat similar.

Other relevant literature includes Cardwell's (1956) study which summarizes research in many areas which bear on our examination of the problems of CPCS, Rusalem's guide (1962) also summarizes many articles and reports which provide background for understanding the special problems of the severely impaired matriculating at college.

College Students Who Have Cerebral Palsy

Bozarth and Muthard

In their study of the CPCS group Bozarth and Muthard (1966) found that a cerebral palsied college student uses more sources of help, uses the counseling and guidance services in high school as often as other students, and perceives no differences in the helpfulness of "personal", "vocational" or "educational" assistance. They found that cerebral palsied college students with plans to attend college obtain advice from adult and peer friends less frequently than do the non-impaired students, and go to the college counseling service for help more frequently. The cerebral palsied college student does not, however, view the college counseling service as more helpful than does the non-impaired. There were few significant differences between the two groups in attitudes toward college and toward education in general. The cerebral palsied students reported that assistance from the Division of Vocational Rehabilitation was largely financial, rather than in terms of counseling and planning.

Cerebral palsied college students do not believe themselves to be discriminated against by their teachers and peers, and nearly half see their college as increasing their independence.

Muthard

Muthard (1964) found that attitudes of cerebral palsied college students are, in many respects, like those of other students. He inferred that they have much the same concerns and attitudes regarding their college education, but they have greater concern for its vocational values. The sample for this study was taken from the same register used for this attitude study.

Muthard further indicated that male cerebral palsied college students react to the demands of college and post-college years with a greater amount of worry, seclusiveness, and feelings of inferiority than do their female counterparts. Male cerebral palsied college students are more likely to want and need help in college than females. The findings suggest that factors other than severity of impairment influence personal adjustment among college-going cerebral palsied persons. The factors could be early training, experience, attitudes of significant others, and quality of interpersonal relations.

Hansen

Hansen's (1963) study explored some relationships between observable physical disability and selected pertinent interpersonal perceptions of these same cerebral palsied subjects. The results suggest that the self concept of the cerebral palsied college student tends to be less sex-linked than was that of the non-disabled college student.

From the Role Repertory test (Kelly), which assesses the subject's ways of construing people, Hansen found that "help" constructs were not used as frequently by cerebral palsied students as by their non-impaired peers. The "Help" construct, however, appears to be an important interpersonal dimension for both groups.

Hutchison

In the study of the college adjustment of the cerebral palsied college student, Hutchison (1966) related adjustment scores to: intelligibility of speech, parental perceptions, socio-economic status, undergraduate grade point average, and size of home community. Although no significant differences in adjustment were found between the cerebral palsied college student and his non-impaired peer, Hutchison thought this was significant in itself. The study suggests that cerebral palsied college students from large cities (over 50,000) tend to be rated higher on the college adjustment rating scale than do those from smaller communities and farms. This could be attributed to such advantages as availability of therapy, possibilities of different social interactions, and the "practice effect" of adjustment.

Studies under this section become part of this publication and are more fully reported in Chapter IV.

CHAPTER III

METHODOLOGY

A register of 353 CPCS was compiled as the major source for this study. To be included in this research, a person had to be enrolled in college in 1959-60, or have attended college at some time during the three years preceding the start of the survey (i.e., 1957-1960). There was little question that students in this study had some degree of cerebral palsy -- brief medical reports were secured from the subjects' personal physicians, and students who did not feel they belonged in the group could disqualify themselves.

There was no existing roster of CPs attending college, or those who had recently attended college. A register was developed, by contacting organizations and individuals who might logically know of eligible persons. Initial and follow-up letters were written to 415 sources:

73	United Cerebral Palsy affiliates.
186	colleges and universities with an enrollment of over 2,000.
91	Easter Seal societies.
50	speech and hearing centers.
19	state directors of vocational rehabilitation. (Colorado, Indiana, Illinois, Iowa, Kansas, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, North Dakota, Ohio, Pennsylvania, South Dakota, Wisconsin, District of Columbia.)

Because extensive personal interviewing and testing of the subjects studied was necessary, the register was restricted to individuals from the Midwest and Mid-Atlantic states. Students who were invited to participate were subsequently asked to name other individuals who might also fit into our study.

Of the 353 students originally contacted, 208 (59%) responded to the inquiry. While 12 per cent refused to participate in the study, 3 per cent were ineligible. Among the CPCS who returned the pre-interview questionnaire, 158 met the college attendance requirement, and comprise the primary sample.

A secondary sample of 35 persons who had left school more than three years prior to the study was also chosen. Eighteen of this group were interviewed and tested, in anticipation of the follow-up study of employment experiences, herein included.

Sampling Procedure

Initial CPCS Study: It was impossible to interview and test the entire primary sample of 158 students. A stratified random sample of 80 was drawn. Stratification was based on variables closely related to the rationale of the project: the participants' sex, severity of involvement (participant's estimate), college level, (undergraduate, graduate, out of college), and size of college attended. As the interviewing progressed, ten substitutions were made in the roster because of circumstances (health, location, weather, unavailability, etc.) which prevented the participation of the CPCS originally selected. Accessibility and similarity on the four stratifying variables determined the selection of the substitutes.

Primary and secondary groups consisted of those responding to the preliminary questionnaire in the initial phase of this study. The primary sample met the same criteria as the 158 pre-inventory questionnaire respondents. The secondary sample, drawn from the secondary group on a percentage basis, consisted of respondents to the pre-inventory questionnaire who had been out of college more than three years.

Follow-Up Study: The 193 respondents to the preliminary follow-up questionnaire were like the participants in the initial CPCS research. They were compared on age, college size, type of college attended, marital status and father's occupation. The three groups included: (1) men who had completed the pre-interview questionnaire, (2) men who had completed the pre-interview questionnaire as well as the follow-up questionnaire and, finally, (3) men who had completed the pre-interview questionnaire and the structured interview. A similar analysis for the three parallel groups of women was completed. There were no significant differences between these groups on any of the variables.

Thus, the two samples of college students with cerebral palsy participating in the original and the follow-up study were not markedly different. To the extent that these groups are representative of the college student with cerebral palsy, the findings can be generalized to other cerebral palsied college students.

Group 1 consisted of 124 men and 79 women; Group 2, of 70 men and 47 women; and Group 3 of 36 men and 23 women.

Non-impaired comparison group: To permit comparisons and to place the CPCS group data in perspective, a number of procedures were used. The basis for many comparisons was a sample of non-impaired students who were contemporaries of the CPCS group studied. This comparison group of 78 students was selected from ten colleges and universities similar in size and type to those attended by the sample of cerebral palsied students. In addition, every attempt was made to match the cerebral palsy sample by college class and general level of performance. Since registrars and placement personnel on the respective campuses helped to recruit student subjects who were paid for their participation, it was possible to select students for the comparison group who met the various criteria. With one exception, the questionnaires were administered by research assistants or the principle investigator.

Instrument Development

Six instruments (See Appendix A) were developed to answer questions which the investigators regarded as critical. A forty-item preinterview questionnaire[1] was constructed to elicit demographic, experience, and attitude data amenable to questionnaire form. In addition to providing a basis of comparison between the CPCS interviewed and tested and the group not studied intensively, it enabled us to reduce the length of the personal interview with each participant.

The Interview Schedule[1] was the major technique for eliciting information concerning the cerebral palsied student's views of his college experiences.

Investigation of various approaches suggested that the structured clinical interview would be most useful for the purposes of this study. The items were designed to be straightforward, non-projective, and mostly open-ended, permitting individualized responses, yet sufficiently structured to maintain standard content. The structure, order and sequence of the interview items were planned to facilitate smooth progression in the interview, elicit pertinent information, and develop confidence and rapport. To avoid excessive length inherent in a comprehensive survey such as this, the pre-interview questionnaire and a variety of conditional questions were used and the coverage of certain content areas limited. The schedule was revised after being pretested with two cerebral palsied persons on the University of Iowa campus and reviewed by the project consultants.

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[1] Research workers may secure copies of this and other questionnaires from the first author. Many of the items can be found in the Follow-Up Questionnaire which is Appendix B.

The Role Construct Repertory Test (Rep Test) developed by Kelly (1955) was modified to obtain information about the cerebral palsied student's interpersonal relations. Briefly, this technique asks the participant to sort, by similarities and differences, people significant to him. Subsequently, he is asked to describe the way he construes these people in 22 different combinations. Analysis of these data provides information not only about the way participants categorize the people with whom they interact, both individually and as a group, but also the roles available to them in interpersonal relationships. This test was administered to the participants individually at the time of the interview.

Impressions about each participant and attitudes toward him as a student and person were obtained from the Faculty Member's Questionnaire (Appendix A). In addition, the eleven-item questionnaire sampled the attitudes of faculty members toward disabled persons in their classes, and requested suggestions for facilitating the work of the cerebral palsied student. It was sent to the instructor whom the student believed knew him best.

Medical information concerning diagnosis, severity, and the physician's observation of the reaction of the cerebral palsied person and his family to rehabilitative procedures was secured through a four-item questionnaire. This was sent to the physician who the student designated as being most familiar with his medical history.

A third questionnaire was mailed to the parents fo those in the primary sample to assess their attitudes toward child-raising practices and development problems. It also secured the parents' viewpoints regarding the problems faced in their child's preparation for and attendance at college, and provided some evidence of their attitude toward the disability of their child. Questionnaires were returned by 70 parents of the 80 CPCS in the random sample.

Data Collection

Interviews conducted with each of the CPCS in the study averaged four hours in length. Except on eight occasions when home interviews were held, interviews were conducted in a private office. Each interview was tape recorded to facilitate tabulation and analysis, and a specified portion of the tape was evaluated for speech intelligibility.

Because of the interview's length, psychological tests and inventories were administered at another time to small groups. With few exceptions, the tests were given by project staff, but in some instances other individuals supervised the test taking or, in the case of the personality inventories, the participant was instructed and allowed to complete the inventory by himself at his convenience.

In keeping with the main interest, more test information was secured from individuals comprising the primary sample, than those in the secondary sample. The Brown-Holtzman Survey of Study Habits and Attitudes, the Ohio State Psychological Examination, Form 21 (Test 1), the Minnesota Multiphasic Personality Inventory, and two administrations (Self, Ideal) of Gough's Adjective Check List were completed by the primary sample participants. The MMPI and the ACL were administered to the secondary sample. Hoppock's Job Satisfaction Scale was administered to those employed after leaving college. The time required for the inventories averaged two and a half hours. The interviewer's impressions of the participant were secured by completion of the Adjective Check List immediately following the interview.

Signed permission forms obtained from all participants allowed us to secure college and rehabilitation records.

The data analysis was guided by the initial questions which prompted our inclusion of specific items in the interview schedule and particular tests or inventories. Since a primary goal was to describe the characteristics, problems, and coping behaviors of CPCS, much of the information was tabulated so as to permit comparisons between CP and non-impaired students, or when not feasible, comparisons were only tabulated. The relationships between various personal history and background factors (e.g., age, sex, socio-economic status, early adjustment, speech skills, severity of disability, etc.) and the CPCS adjustment to college, coping procedures, use of help, and the like were also examined.

Two procedures were followed in making comparisons of the sample with non-disabled college students. The first compared findings from the study population with those from other college population studies (e.g., attitudes and values, MMPI). Clusters of items in the interview schedules and the inventories were selected because previous work with college populations facilitated comparisons. To secure comparative data in areas not available from other sources, we conducted group interviews with the sample of non-disabled college students. The study group was also compared with a representative sample of American adults (Gurin, 1960), on certain facets of general adjustment, personal problems requiring professional help, and satisfaction with job performance.

The classification and coding of the open-ended questions to the interview schedule proved an arduous task. Responses of clusters of responses were placed on cards, which were then sorted to establish possible categories for a given response. After categories were determined, the cards were independently coded by two or three workers. Coding disagreements were settled either by a third judge or by discussion among the judges. Levels of agreement in coding ranged from moderate (50 per cent) to fairly high (90 per cent), but since a conference between judges or additional judges reconciled any differences, the coding was sufficiently stable to be used.

Percentages for encoded responses of the CPCS and non-impaired student groups were calculated and placed on worksheets. The resulting distribution of responses for the two groups then made it easy to determine whether further analysis was needed. Comparisons between groups and subgroups was usually done with either the Chi square statistic or ANOVA Type 1. Multiple regression procedures were used to determine the correlations between major predictor variables and college success as measured by grades and ratings of college adjustment.

The Preliminary Phase of the Follow-Up Study

Questionnaire cards were mailed to 193 cerebral palsied persons who had attended college -- the entire group which had completed a basic questionnaire for the original research. The non-impaired group used in the earlier study was not approached for this preliminary step.

The questionnaire card was an overprinted IBM computer card which requested the following information:

(1) Demographic information: name, address, sex, marital status, number of children.

(2) Educational information: last undergraduate school attended, degree and date received, graduate school attendance.

(3) Work history: number of jobs held since graduation, present job classification, salary received per month, length of time on present job, expression of job satisfaction.

(4) Willingness to participate: desire to be paid for participating.

(5) Comments: for the subject's use, if desired.

A cover letter explaining the proposed study, and strongly urging the recipients' participation, accompanied questionnaire card. An instruction sheet for the IBM card, and resumes of the articles by Bozarth (1965), Hansen (1963), and Muthard (1964 and 1965) were included in the preliminary package. The questionnaire cards and enclosures were mailed November 29, 1965, and by the termination date for replies, February 28, 1966, 109 returns had been received.

Since a sufficient number of persons expressed a willingness to participate in the follow-up study, with or without a small stipend, a more extensive follow-up study than originally planned was conducted.

Additional subjects in the primary and secondary groups were solicited.

A parallel follow-up questionnaire was also developed to compare employed CPCS with non-impaired former college students. It was sent to the original sample of 78 non-impaired college students.

The Follow-Up Study

Data were collected by mail. The follow-up questionnaire was sent to 193 cerebral palsied persons form the roster of the original study, and a parallel questionnaire was sent to the 78 non-impaired college students who comprised the control group of that study (Appendix C and D). Questionnaire items inquired about the following areas:

(1) Personal information.

(2) Educational information.

(3) Employment information.

(4) General adjustment.

(5) General attitudes.

Statements in the questionnaire were drawn from earlier studies of college students by Pace's (1941) follow-up study of University of Minnesota General College Students, Haveman and West (1952), Goldson et al (1960), Campbell (1962), and from the questionnaire utilized in the original CP research.

The follow-up questionnaire was sent on April 17, 1966, to subjects in the primary and secondary groups of cerebral palsied college students and the non-impaired group. Returns from both groups were accepted until June 10, 1966.

Post College Variables

Four independent variables were studied within the framework of five major areas: vocational orientation of college major; employment relatedness of post college job; present job satisfaction; changes in attitudes; and comparisons with non-impaired college students. These independent variables were:

(1) Employment relatedness.

(2) Job satisfaction.

(3) Job as skill level.

(4) Salary per month.

Table 1

PROPORTIONS BY STRATIFYING VARIABLES ON THE FINAL SAMPLES

	FOLLOW-UP				PRIMARY				SECONDARY			
	Pop.		Sample		Pop.		Sample		Pop.		Sample	
	N	%	N	%	N	%	N	%	N	%	N	%
Male	118	62	90	77	98	62	50	62	22	63	11	61
Female	75	38	27	23	60	38	30	38	13	37	7	39
Low Severity	125	65	59	50	108	68	54	68	17	48	9	50
High Severity	68	36	58	50	50	32	26	32	18	52	9	50
Attending School	0	0	0	0	93	59	55	68	0	0	0	0
Graduated	172	89	105	90	44	28	15	18	34	97	17	94
Out, Not Graduated	21	11	12	10	21	13	11	14	1	3	1	6
Small College					20	12	11	14	2	6	1	6
Medium College					51	33	27	34	7	20	2	11
Large College					87	55	42	52	26	74	15	83

The Employment Relatedness Scale (ERS) was designed specifically for the follow-up study. The relationship of a combination of educational variables to each of the three most recent jobs reported by the subjects determined the ratings. The educational variables were:

(1) Orientation of undergraduate major.

(2) Subject's preparation for employment in his chosen field.

(3) Subject's field of employment for which he was prepared.

If the subject continued his education, either with or without an intervening period of employment, the additional educational variables included:

(4) Orientation of graduate major.

(5) Subject's response to the question, "Were you prepared at this point for employment?"

(6) Subject's response to the question, "For what field of employment were you prepared?"

The vocational variables were:

(1) Job title.

(2) Job duties.

(3) Degree to which subject feels his job duties are related to his college education.

(4) Reason for leaving a job.

Two advance graduate students in rehabilitation counselor education at the University of Iowa and one rehabilitation counselor rated a randomly selected sample of 20 subjects on the following Employment Relatedness Scale:

(1) Employment definitely not related to education.

(2) Employment somewhat related to education.

(3) Employment about half related to education.

(4) Employment more than half related to education.

(5) Employment definitely related to education.

(6) Housewife -- no rating unless working or had worked prior to marriage.

(7) Subject continuing education -- no rating unless there was an intervening period of employment.

Reliability of the ERS ratings was measured by Ebel's (1951) interclass _r_. As Table 2 shows, both the individual and average ratings were satisfactorily reliable. Since the reliability of individual ratings was established the remainder of the subjects were rated by the principle investigator.

Table 2

THE EMPLOYMENT RELATEDNESS SCALE: THE ESTIMATION OF THE RELIABILITY OF RATINGS

Source	df	ms
Raters	33	0.0
Subjects	19	7.8
Error (w)	57	.695
TOTAL	79	

Reliability of average ratings	.91
Reliability of individual ratings	.72

Study Design and Analysis

The basic data were collected by mailed questionnaires from 117 cerebral palsied college students and 46 non-impaired college students. The following responses were tabulated and related to the Employment Relatedness Scale:

(1) Selected personal characteristics of cerebral palsied college students.

(2) Selected vocational characteristics of cerebral palsied college students.

(3) Comparisons were made between cerebral palsied and non-impaired college students.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter describes the cerebral palsied college and post-college (CPCS) sample on the usual demographic variables, the nature and severity of their disability, family characteristics and relationships, and the reactions of parents to the problems presented by an impaired child. It also summarizes the post college employment experiences of the CPCS and their opinions regarding the value of college for them. Unless the two groups differed significantly on a variable, as they did on marital status for example, the narrative describes the CPCS sample, and the reader may assume that the findings for the non-impaired sample were not significantly different. Selected findings are listed in Appendices C, D, and E. Naturally, our discussion of the disability itself, as perceived by the cerebral palsied and their parents, will pertain only to the CPCS group.

General Characteristics

In many of the demographic variables studied in the initial study, the cerebral palsied and non-impaired student groups were very similar. For example, the median age of the CPCS group was 21.9, just a year older than the non-impaired sample. About 70 per cent of the cerebral palsied college students came from urban areas. This distribution was in part due to the sampling procedure since in several instances, students located in the more remote communities had to be eliminated from the study group. However, there is also the possibility that parents of cerebral palsied children choose to live in cities so that their children could profit from special education programs and medical services which these areas offer.

Socio-economic status, College CPCS: The socio-economic status of the cerebral palsied group was slightly lower than that of the general college population. While not significantly different on a modified socio-economic index, based upon Hollingshead's Index of Social Position (1958), the parents of CP students had lower annual incomes (a mean of \$6,718 vs. \$7,436). Although a majority of the fathers of the cerebral palsied college students were employed in professional-managerial positions, over one-quarter were skilled workers or in farm-related occupations. Also, significantly fewer fathers of the CPCS had completed high school. Of the CPCS reporting the education and employment of their siblings, less than one-fifth described their sibs as engaged in professional-managerial work; and about two-fifths said that all of their sibs either were attending or had attended college.

Socio-economic status, Post-college CPCS: In reporting post-college sources of income, 54 per cent of the cerebral palsied indicated that their major source of income was wages, while 76 per cent of the non-impaired said their income was from wages. Spouse's earnings was the major source for eight per cent of the CPs and 15 per cent of the non-impaired.

Although wide range of responses were received to the request for post-college estate value information, 34 per cent of the cerebral palsied and 44 per cent of the non-impaired sample did not answer that question. The median estate value for both groups fell within the range of \$7,500 to \$9,999. Reports of their total family income for 1965 ranged from less than \$1,000 to \$30,000 with the median for both groups falling in the \$5,000 to \$9,000 range.

Religious activity, College CPCS: We attempted to match the CPCS and non-impaired groups with respect to the church relatedness of their college and found that both had a majority of Protestants and about one-fourth Catholics. One-third of the students attended church only occasionally or never; about 60 per cent went every week. College attendance did not seem to effect significantly the student's church attendance; about two-thirds of both groups attended as much as they did before college; however, the non-impaired group increased their attendance more often than the CPCS.

Religious activity, Post-college CPCS: No significant differences in religious practices were found between the cerebral palsied college student and the non-impaired group on the following questions: how often do you attend your place of worship; are you a member of a church group; compare your church attendance with when you were in college; give reasons for your present church attendance.

There was, however, a significant difference in church attendance when the female cerebral palsied college student was compared with the female non-impaired sample. Seventy per cent of the cerebral palsied females attended church as compared with 50 per cent of the non-impaired females.

Marital status, College CPCS: The college cerebral palsied student group included fewer married persons than did the comparison group, and markedly fewer than the proportions of married college students reported by the 1960 U.S. Census. Of the four CP's who were married, none was married to another cerebral palsied person, and only one was married to a person described as disabled. Although the small numbers involved to not permit generalizations about the marriage patterns of college-educated CP's, we can say that a cerebral palsied person is unlikely to marry someone with a similar disorder.

Marital status, Post-college CPCS: As one might anticipate, substantially more of the non-impaired graduates had married than had members of the CPCS group. Two-thirds of the NI group married compared to 31 per cent of the CPCS. In the six years intervening between the two surveys an additional 20 per cent of the latter group had married.

When the two married groups were compared with respect to number of children, no differences were found. Eight of 10 in both groups did not have children at the time of the follow-up study.

When those individuals who remained single were asked if they dated regularly, 30 per cent of the CP's indicated they never dated, as compared with six per cent of the non-impaired group. Over 60 per cent of the CP's indicated they never dated or seldom dated, as compared with only 18 per cent of non-impaired group. Most of the single CP's (84 per cent) said they planned to marry, as compared with only 65 per cent of the non-impaired group. A substantial proportion (38 per cent) of the cerebral palsied single group felt the existing handicap was the greatest barrier to marrying. For the non-impaired the most frequently mentioned problem (46 per cent) was finding a person with similar interests or as it was often put, "the right person." Both groups cited future insecurity, including finances, as an important barrier to the same extent. They were similar also with respect to the proportions who felt there were no barriers. Somewhat surprisingly, 20 per cent of the non-impaired group said lack of opportunity was the greatest barrier while only seven per cent of the CPCS mentioned this problem.

School and college programs, College CPCS: As a group, the cerebral palsied college students began school later and took longer to finish than did students in the comparison group. At six years of age, 91 per cent of the non-impaired students had begun their formal education, and at eight years, all the non-impaired students had begun their formal education. On the other hand, only 63 per cent of the CP's were enrolled in grade school by age six, and one did not begin his formal education until age 12. Also, more non-impaired than cerebral palsied college students went directly into college upon graduation from high school. This accounts in part for the higher median age of the CPCS as compared to the non-impaired college students.

A substantial majority of the CP's attended public elementary and high school, 19 per cent attended parochial schools, and only six per cent attended private schools. Academically, they did not do as well as the non-impaired; 56 per cent of the CP's vs. 77 per cent of the non-impaired, graduated in the upper third of their high school class. As their urban residence would suggest, both groups attended moderately large high schools; only one in five was enrolled in a school with a student population of less than 250.

School and college programs, Post-college CPCS: The two groups did not differ in the number of undergraduate colleges they attended nor in the average number of years in undergraduate school. Although four years in considered the usual number of undergraduate years only 57 per cent of the CP's and 71 per cent of the non-impaired group completed their work in that period. In addition, 22 per cent of the CP's and 26 per cent of the non-impaired went five years. While 10 per cent of the cerebral palsied group listed six years or more, and up to as many as nine years in undergraduate school, none of the NI group reported this.

The undergraduate major pursuits of both groups were not significantly different. They ranged from engineering, to education, to agriculture and included the professions, business administration, the sciences, the social sciences and the humanities. The majority of the cerebral palsied majored in the humanities which included languages, history, literature, English, liberal arts, fine arts, religion and philosophy, as compared with only 20 per cent of the non-impaired group. Majors in the social sciences which included psychology, sociology, political science, the therapies and counseling were taken by 28 per cent of the cerebral palsied as compared with only half that percentage among the non-impaired group.

The only significant difference between the two groups was in the proportions majoring in education. Only nine per cent of the cerebral palsied group listed education as their undergraduate major as compared with 28 per cent of the non-impaired group. In both groups the majority of education majors were women.

While all of the non-impaired graduated from college, notably fewer (71 per cent) of the cerebral palsied group graduated. The cumulative undergraduate grade point average reported by the two groups did not differ significantly. Median scores for both fell in the 2.75 to 2.99 grade point average range.

The cerebral college student who went on to graduate from college tended to spend more time in his program of advanced study than did members of the comparison group. While a majority of the CPCS attended three years of graduate school, most non-impaired graduate students spent only two. Furthermore, more of the CP group than the NI group attended four or more years of graduate school. In both groups the majority of those going to graduate school attended only one graduate school.

With one exception the two groups distributed themselves among graduate departments in essentially the same manner. About twice as many CPCS went into the social sciences as did the non-impaired (38 vs. 19 per cent).

Although differences between the male and female samples in both groups were found they were differences such as those found in previous studies of college students.

With respect to preparation for employment there was only one area in which a difference was significant. Fewer cerebral palsied students (37 vs. 59 per cent) listed counseling as a field in which they were prepared to work. Nearly all members of both groups thought that their education prepared them for employment, however about five per cent of the cerebral palsied group and six per cent of the non-impaired group said they needed further training. Very nearly all members of both groups felt there was no lack of job opportunities.

Although about half of the CPCS made no suggestion for improving the services colleges provided for the severely impaired, the remainder had several significant proposals. Half of those who felt some change was desirable suggested that counseling services be improved. The three other suggestions were: improve job placement services, provide better physical facilities and have more realistic expectations from the severely impaired student.

The responses to a series of questions about the value of college for vocational preparation showed no large differences between the views of CPCS and NI groups. About a third of both groups saw college as needed to get the type of job they wanted; however almost twice as many CPCS as NI (38 vs. 20 per cent) felt that a college education helps a person get any job. Among the cerebral palsied students there appears to be a much higher evaluation of college, as well as a less critical attitude toward college and teachers.

Both the CPCS and comparison group followed much the same patterns in reminiscing about the value of different aspects of college. A majority of those responding thought the total college experience was important, rather than any single area such as the academic, vocational preparation, or social aspects of college life. For both groups, overall personal development in college years tended to be linked to required and elective courses, roommates and friends, and to a lesser degree such things as the professor's attitudes, being away from home, and the general college spirit. For the CPCS the three factors contributing least to personal development, were athletics and sports, counseling or advisement, and organized extra-curricular activities. The same three factors were most often mentioned as sources of dissatisfaction with college. Satisfaction with college was most often associated with roommates and friends as well as elective courses.

Disability: Judgements of the severity of the cerebral palsy disorder were obtained from physicians named by the students, the students themselves, and their parents. The 70 students whose physicians reported, were divided into three approximately equal groups disignated severely, moderately, and mildly impaired.

In self-descriptions, 20 per cent of the students reported themselves as being severely impaired, and 45 per cent saw themselves as moderately impaired. Fourty-eight per cent of the students disagreed with physician's ratings as tothe severity of disorder, 18 per cent felt themselves to be more severely impaired than physicians had reported (women doing this more frequently than men), and 30 per cent rated themselves less so. Parents placed the fewest number in the severely impaired category (only nine per cent), and emphasized moderate (52 per cent), and mild (39 per cent) impairment.

In rating the degree of involvement of extremities, one quarter of the CPCS said they had little or no involvement, about half reported mild involvement, and the remaining quarter reported severe involvement. Incoordination was listed by 41 per cent of the CPCS as their main functional difficulty, and muscle tightness and spasticity by a quarter of the students.

A majority of the cerebral palsied students placed themselves in the spastic cerebral palsy category (Phelps, 1954), while physicians of this group reported about ten per cent more in this category. On the other hand, physicians reported ten per cent less in the athetoid cerebral palsy category. Both students and physicians reported about one-fourth of the group as falling in the "other" or "mixed" cerebral palsy category. Half of the students were described as quadraplegic by physicians while only one out of eight was described as monoplegic.

In addition to substantial motor involvement, physicians reported two out of three had speech disorders, 18 per cent had some degree of hearing loss, and a similar proportion had some seizures. Some type of visual difficulty was reported for one out of six. There appeared to be no significant differences between the sexes in the presence of concomitant disorders.

Analysis of MMPI scores indicated no relationship between cerebral palsy type and psychological characteristics of the individual. Muthard (1965) shows specifically that there is no overall difference between disability categories, and no difference between these groups on the Kleinmuntz (1960) MMPI maladjustment (Mt) scale. However, when compared with other college groups on the MMPI, CPCS do show significantly higher scores on several clinical keys, including the Mt scale.

The CP student and his family: Most cerebral palsied students thought their fathers were good men but not close to their children. Mothers were described as kind, affectionate, understanding, and concerned for the children's welfare. Although more cerebral palsied than non-impaired students reported they did not get along well with siblings, a majority of both groups reported good relations.

A large majority of the CPCS reported favorable memories of early family life, describing it as happy about 85 per cent of the time, and feeling that family activities were equal to or greater than those for other families. Most cerebral palsied college students felt they shared in family activities to the same extent as their brothers and sisters. The kinds of family activities participated in by the cerebral palsied and their families were picnics, trips, vacations, and therapy. Parental participation in therapy was perceived by the cerebral palsied student as a family activity important to his development.

Cerebral palsied persons rarely have a brother or sister, severely disabled by cerebral palsy or another disorder. Among our sample, only two had one or more cerebral palsied siblings, and two more had sibs with other disorders.

About 55 per cent of the CPCS felt there were too many children in the family. Whether this was prompted by feelings of rivalry or neglect is uncertain, but it does not seem to be related to any qualms about the hereditary nature of cerebral palsy. (Two-thirds of the respondents strongly disagreed with the statement, "People should not have more children after a cerebral palsied child is born to their family," and only two agreed with it).

Parental expectations: About 60 per cent of the CPCS felt their parents expected them to: "Do my best", "Get ahead", "Be a success", "Lead a good life", "Be self-sufficient", and "Achieve professional goals". By contrast nearly all NI students reported similar parental expectations. Four times as many of the NI comparison group (54 vs. 13 per cent) felt they were expected to succeed and do their best and substantially more (36 vs. three per cent) felt they were expected to attain high occupational success. Parents of cerebral palsied may be remiss in not reflecting positive attitudes toward the future and setting reasonable expectations for a useful and happy life. The nature of our inquiry and data does not justify further interpretation, but, when considered along with other findings (Coleman, 1961 and Cardwell, 1956), suggests a major problem area.

While more (18 vs. eight per cent) non-impaired college students cited educational goals as an expectation of parents, over half of the cerebral palsied students described their parents as favoring higher education, eight per cent saw them as neutral or opposed, and another eight per cent indicated that parents differed in attitudes toward higher education.

The cerebral palsied students were not asked if parents expected them to marry. However, when parents were asked if they expected their cerebral palsied child to marry and establish a home, just over half said yes. This expectation was greater for cerebral palsied sons than for daughters. Although a majority of parents of cerebral palsied students expected their children to care for themselves eventually, about one-third did not. A slightly larger proportion expected their children to be profitably employed, but, again, a significant group (21 per cent) did not. Using the same basic data, Hutchison (1965) found, on a scale of parental expectation of independence, that 84 per cent of the parents of the cerebral palsied had high expectations for their children when self-care, profitable employment and marriage and home establishment were rated in combination on a seven-point scale.

Parents and the disability: Fourteen per cent of those completing the parent questionnaire belonged to a group designed to help parents understand and work with a cerebral palsied child while the child was of pre-school age. Thirty-one per cent reported affiliation with such a group when their child was attending grade shcool, 26 per cent participated while their child was in high school, and 17 per cent continued in participating while their child attended college. Such a pattern suggests that the parents may be unaware of cerebral palsy in pre-school children. It may also suggest that, once a cerebral palsied child becomes more secure and a part of the educational system, parents terminate affiliation with groups that offer little in the way of continuing reassurance and help. However, the relatively low proportion of parental affiliations with voluntary CP groups may be the result of the limited development of such groups during the 1940's.

Although parents did not emphasize any particular source of frustration or benefit, responses to open-ended questions do show some primary concerns. Frustrations mentioned most frequently were:

(1) difficulty in providing social opportunities for their child.

(2) the requirements of the physical impairment itself.

(3) a lack of personal knowledge concerning CP.

(4) the lack of facilities and information.

Factors of greatest benefit to a CP child's development were: the child's personal traits, participation in school, being treated like a normal child, family life, the social practices and pastimes of the family, and religious influences. Relatively few parents said they would do anything differently if they had to do it over again; however, about one-fifth mentioned earlier emphasis on and use of therapeutic measures.

A child's academic achievement during the pre-college period made the parents most proud and happy. The child's personal development and social skills were mentioned as next in importance. College influenced the CP child, according to the parents, by making him more mature, independent, and self-confident, as well as broadening his knowledge and increasing his abilities. It was surprising to find that five per cent of the parents believed college to be detrimental to their child.

Employment information: A number of questions regarding the pre-college and college work experiences of the CPCS were included in the questionnaires completed by the CPCS while in college, in anticipation of the follow-up study. This section reviews briefly the extent of experiences and CPCS satisfaction with these experiences. In addition, a summary of job goals and values of the study group is presented. Rather surprisingly, we found that neither the non-impaired comparison group nor the CP group had a high proportion of members working part-time while in college. About as many of the CP group had some sort of part-time pre-college employment as did the NI group, but it appears that part-time work and employment during college is more frequently a part of the non-impaired's experience. This seems to be a function of both the feasibility of holding a job and the difficulty encountered by the college student with cerebral palsy in securing the unskilled and semi-skilled jobs frequently filled by students on a part-time or summer basis. We found that only one in ten of both groups worked full time before entering college, and half of the cerebral palsied students had never held a part-time job. While in college almost half of the non-impaired students held some type of employment, while only one-fourth of the CP's had this experience.

It seems clear that the exploratory work experiences of the CPCS are markedly less than those of non-impaired peers. Since such experiences have value not only in providing an income, but also in the development of work attitudes, knowledge about the world of work, and the development of basic work skills, it would seem desirable for agencies, counselors, parents and the CP college students themselves, to vigorously seek opportunities which would contribute to the vocational development of the cerebral palsied person who is going on to college.

At the time of the initial interviewing and testing, one-fifth of the cerebral palsied students had completed college or less than college. This group was almost equally divided between working in professional-managerial type positions and working in clerical, sales, or service fields. One was employed as a farmer and another as a non-skilled laborer. A clear majority (75 per cent) expressed a fair amount of satisfaction with the jobs they had turned to.

In reaction to part-time and summer employment experiences, we found a marked difference between the CP and the NI groups. In most instances, a student with cerebral palsy was satisfied with part-time or summer work. On the other hand, especially for work on campus, all non-impaired students expressed some degree of dissatisfaction. Substantially fewer CPCS engaged in summer work and those who did were generally quite satisfied. This was also true for the NI group. Only one in three of the CPCS reported summer employment while first interviewed, whereas 96 per cent of the NI group reported some form of summer employment. Of those who held summer jobs, half of the CPCS thought they might like to do similar work as a regular thing, while only one in five of the NI group felt this way.

Thus we see that the CPCS not only had fewer opportunities for pre-college and summer employment, but look upon these opportunities in more favorable light than do their non-impaired peers. This may arise from different levels of expectation, and the pleasures derived at having any kind of opportunity for paid work experience. It may also arise from the lower expectations for work and the satisfactions to be gained from work. The limited opportunities for part-time work experiences in high school and during summers certainly suggest that restricted opportunities for employment and the limited expectations of CPCS and their parents may have unduly narrowed the range of experiences which could contribute to the vocational and personal development of the cerebral palsied youth. The limited expectations of the CPCS are shown by the findings that 45 per cent of this group think it difficult to get a job.

As we might expect, both the CP and the comparison group felt that college was going to help substantially in securing the right kind of job. For that small portion of the CPCS who had left college, this seemed even more pronounced; however, it was quite marked for the entire group. Only one in seven CPCS felt that college would make little difference in getting a job and those who held this view were still in college at the time of the interview. Although almost half of the group say that CPs have trouble getting jobs, only one-third of them ever talked to counselors about work, while slightly more than fifty per cent of the NI group had sought this kind of help. In looking at some of the values held by the CPCS regarding work, it was found that, like most college students, they saw a career as a major source of satisfaction. While half of the group placed a career first, almost one-third of them indicated that they expected to get the most satisfaction from a family life. In ranking the most important qualification of the ideal job, the CPCS emphasized three major facets. The three most important characteristics in rank order were listed as a job that was helpful and humanitarian, a job which used their special abilities or preparation, and a job that was secure. Relatively few of them mentioned work as a creative outlet or a basis for earning money.

In the follow-up questionnaire, 36 per cent of the cerebral palsied group listed a professional post-college job title, as compared to 18 per cent of the non-impaired group. However, when "Teaching" is grouped with professional jobs, the proportions become 45 per cent for the cerebral palsied group and 63 per cent for the non-impaired. Substantially more cerebral palsied (21 vs. five per cent) than non-impaired were employed as clerical and sales workers. For this analysis the DOT classification system was used.

When present job duties were classified by Roe's system, 43 per cent of the cerebral palsied group fell in the service classification while only eight per cent of the non-impaired group indicated this occupational area. A high proportion (38 per cent) of the non-impaired group were in technological jobs while only seven per cent of the cerebral palsied group were in similar work.

When classifying the present employment of both groups according to industry types (The Standard Industrial Classification system) there were no significant differences between the groups. The majority of respondents for both groups were employed in "services and public utilities."

Differences between groups were found with respect to the months individuals had held their present jobs. Nearly half of the cerebral palsied group had held jobs 48 months or more, while only three per cent of the non-impaired listed that much tenure. For the non-impaired the median tenure was 24 months while for the CP group it was 36 months. The two groups did not differ in the number of hours they worked per week. The majority worked from 40 to 49 hours a week.

About one-fifth of the cerebral palsied group felt they performed job duties differently from someone who was not cerebral palsied. Of this group 30 per cent used special manipulative techniques, 19 per cent reported equipment modifications, and 26 per cent indicated other modifications. About 30 per cent of the cerebral palsied group felt that minor modifications had been made to enable them to perform on the job; only 3.3 per cent felt that major modifications had been made.

The majority of both groups, but a higher percentage of the cerebral palsied group, indicated jobs were secured through their own efforts. Only 19 per cent of the cerebral palsied group and five per cent of the non-impaired group had secured positions through an agency.

Over 62 per cent of the cerebral palsied group and 75 per cent of the non-impaired group said they had no problems with work. Those in both groups who indicated some vocational problems existed did not elaborate on what the problems might be. When asked how they handled this particular problem, the majority of both groups indicated they simply endured it.

In answer to the question, "What do you think is the most important qualification of the ideal job?", the majority of both groups said, the job's provision of an opportunity for the individual to use his special aptitudes or abilities. A slight but non-significant difference in percentages existed between the two groups in the extent to which they listed creativity and originality as the most important qualification of the ideal job. The cerebral palsied group gave this qualification priority 20 per cent of the time, while 26 per cent of the non-impaired thought it extremely important. In both groups about 20 per cent of the respondents thought an opportunity to be helpful to others was the key factor in an ideal job.

Use of and Reaction to Counselors and Other Helping Professions

Although several investigators have studied the extent to which colleges and universities provide necessary services and facilities to the severely handicapped (Tucker, 1964), (Rusalem, 1962), and (Condon, 1957), none have focused upon the use of professional help by college students who are cerebral palsied. Whitehouse (1950) and Glick and Donnell (1953) have commented upon the competencies and personal qualities which the cerebral palsied person must bring to college, but until Bozarth and Muthard (1966) there was no report of how they used help. The findings of that study are part of this chapter.

Counseling and reactions, High school: During the structured interview, two-thirds of the CPCS group said they had received some kind of counseling or guidance. Nearly three-fourths of the counseled group sought help for vocational or educational problems. Only one in 11 cited personal problems as the main purpose for seeking counseling while in high school, although about 20 per cent of the counseled group acknowledged their problems included some element of personal difficulty. The CPCS and comparison group were much alike not only with respect to the types of problems for which they sought counseling in high school, but also in who they went to for this help. About two-thirds of those seeking help received it from counselors. To some extent the non-impaired student group turned to teachers for this kind of help more often than did the CPCS group. Those who did not receive counseling, in most instances, reported either that a counselor was not available or they didn't feel the need for counseling.

When asked to comment on how counseling in high school helped, the cerebral palsied students first emphasized the counselor's interest in the student as a person, and the threapeutic relationship of counseling, and next, the specific information and help given by the counselor. On the other hand, the non-impaired students frequently mentioned the specific help given by the counselor, e.g., preparation for college (such as securing financial assistance, arranging for the necessary scholarship examinations, and planning a specific program of study). These differences were not great, and some students in both groups indicated each of the four kinds of help named.

In commenting on what aspects of high school counseling and guidance seemed to be least helpful, the non-impaired students were most frequently critical of the counselor, because "he didn't know what to do or how to solve the problems." On the other hand, a substantial majority of CP's expressed satisfaction with their high school counseling experience.

An opinion-attitude statement, "According to my experience, the counseling one receives in high school really helps one meet the problems of starting college," was asked. The responses for the two groups were not radically different. Nearly half of the non-impaired students thought high school counseling was of little value and only one-third of the CPCS group felt this way. Before making too much of this difference, however, it should be noted that CPCS generally were less critical of their teachers and schools than were non-impaired students.

Counseling and reactions, College: For help in making college plans, no single cource of professional assistance was regarded as significantly more helpful by CPCS than by non-impaired students. The latter turned to adult and peer friends more frequently than did the CPCS. Understandably, the cerebral palsied group turned more often to vocational rehabilitation counselors.

In college, the impaired group sought help from the counseling services more frequently than did the non-impaired. A study of the different helping people used by CPCS indicated that the impaired student appealed to a greater number of helpers than did the non-impaired student.

The CPCS sought help for personal problems more frequently than people in general. Fifth-six per cent of the CPCS sought such help, as compared with 31 per cent of the general population (Gurin, 1960). Of those CPCS who had never been counseled for personal problems, 16 per cent thought such help would have been welcome; an almost equal number acknowledged that they might have personal problems for which they would seek counseling help; and about one-eighth felt that they would be able to handle such problems themselves. As Bozarth and Muthard (1966) indicated, CP students are quite ready to seek help for personal problems.

Although two-thirds of the CP students sought help for personal problems, only one of five ever received psychotherapy. Apparently many secured help from professionals or friends. For those CPCS who received psychotherapy, the first contacts with a therapist occurred either in their late teens or after entering college.

Counseling and reactions, Vocational rehabilitation: Bozarth and Muthard (1966) found that the CPCS who received DVR financial assistance perceived the state agency counselor as more helpful, than did those who did not receive assistance. The key question was, "To what extent do cerebral palsied students in high school and college seek help in vocational, personal and educational areas?" It was shown that CP college students use more different sources of help (Broadness of help) than non-impaired students, but CP students receive counseling and guidance in high school at about the same rate as non-impaired students.

Cerebral palsied students view certain sources of help as more helpful than others. Examination revealed that significantly more impaired than non-impaired college students utilize the college counseling service for "personal", "vocational" and "educational" problems. There was also evidence that cerebral palsied students are willing to use help for personal problems; 72 per cent of the CPCS were classified more willing to use help than NIs.

No one source of professional assistance was viewed as significantly more helpful by CPCS than by non-impaired college students.

However, Significantly more non-impaired students reported "adult and peer friends" as helpful when professional and nonprofessional sources of help were considered. Understandably, more of the impaired group mentioned such sources of help as vocational rehabilitation counselors.

Counselors attitudes viewed as most helpful by cerebral palsied students were tested by the following hypothesis: Certain types of counselor attitudes are viewed as more helpful than other attitudes in college planning. "Human interest" had the greatest percentage of responses (28 per cent) and "gave them information" -- including specific advice and suggestions -- had the second greatest proportion.

In answer to the question, "Do state-federal vocational rehabilitation programs (DVR) provide satisfactory counseling and assistance to the cerebral palsied student?" Thirty-one per cent of the assisted indicated the DVR counselor among the most satisfactory sources of help, while only three per cent of the unassisted did so. However, a closer examination of the responses of the students who had listed the vocational rehabilitation counselor as one of the three most helpful persons showed that no one chose the DVR counselor as first, and only three listed him second; five men and seven women ranked the counselor third; and all but one of these 15 students had received financial help.

Fifty-five per cent of the CP sample group said they had talked with a DVR counselor about college, there was no significant difference here between the reactions of male and female cerebral palsied students. Forty-five per cent had not spoken with a vocational rehabilitation counselor about plans to attend college. Of the group who had talked with the rehabilitation counselor, approximately 37 per cent viewed the counselor as not very helpful with college planning. Although financial assistance from DVR was received by 55 per cent of the total sample, smaller proportions reported talking to the rehabilitation counselor before or during their college years. Only 36 per cent of the total cerebral palsied sample stated that they had talked with a vocational rehabilitation counselor while in college. Less than half of the cerebral palsied students who talked to DVR counselors prior to college reported talking to the counselor while in college. Men and women CPCS did not differ in seeking counsel.

The results of the Bozarth and Muthard (1966) study suggest that compared to non-impaired students, cerebral palsied students:

(1) use more different sources of help 9broadness of help).

(2) use counseling and guidance in high school with the same frequency.

(3) show no difference in their assessment of the helpfulness of "personal", "vocational", or "educational" assistance.

(4) obtain advice and help with plans to attend college from "adult and peer friends" less frequently (the cerebral palsied uses a combined group for such advice).

(5) utilize the college counseling service more often, but do not view the counseling services as more helpful.

From the findings, it can also be seen that a minority of those who received financial assistance perceived the rehabilitation counselor as especially helpful. (15 of 44 CPCS). Of those 15 who did perceive the counselor as helpful, 12 rated him as the third most helpful person. This poses some questions regarding the effectiveness, or the role, of the DVR counselor and the agency with these students.

Special medical treatment: Visual impairment can be corrected in most cerebral palsied students. Only four per cent of the CPCS group in this study did not regard their visual impairment as corrected, and another four per cent had a correction which approached normal but was not completely adequate.

Four per cent of the CPCS with impaired hearing reported adequate or nearly adequate correction.

Only two of the nin persons who reported some history of seizures said that seizures occurred as often as once a month, and none of the subjects indicated as many as two seizures a month. It is likely that the health requirements of colleges and universities eliminate cerebral palsied students who have frequent seizures. On the other hand, the proportion of the CPCS who have seizures that cannot be controlled through medication is approximately the same for all epileptics.

Physical therapy, occupational therapy, speech therapy: For the most part, the cerebral palsied students had received extensive therapeutic care from physical, occupational, and speech therapists, but had discontinued these therapies while in college.

By far the most common treatment was physical therapy, which was, at some time, part of the regimen of four out of five of our group. Two-thirds had received their first PT treatments prior to the age of six. Another one-sixth of the group first received PT when they were between six and ten years of age. Our data do not permit us to determine whether physical therapy was begun at the optimum time. Of those receiving PT, two out of three had undergone therapy for more than six years, and nearly half of the group had more than 16 years of such treatment. At the time of our interview, only one in ten was continuing a PT program.

Exactly half of the group reported receiving occupational therapy some time during their pre-college years. ABout 30 per cent of the group commenced occupational therapy during the pre-school period, and

66 per cent between the ages of six and 15. Occupational therapy was not generally continued as long as was physical therapy. One-half of the CPCS were given OT for less than five years, and only a fourth continued for from six to ten years. One of the students was continuing OT at the time of the interview.

Nearly two-thirds of the group had some type of speech therapy, although at the time of the study, only a few persons were still receiving some treatment. Speech treatment, like the other modalities were mentioned, was usually begun early. One-third began special therapy in the pre-school period, and an additional third by age ten.

In reporting their use of various therapeutic procedures only 10 CPCS indicated no use of the major modalities listed in our inventory. All of our participants secured medical treatment, but at least six said they did not need other kinds of help; their problem was not severe enough to require it. Of the six, only two reported that desired therapies were unavailable to them, while no one failed to use the various non-medical therapies because of the cost or because they thought such help was not needed.

As one might expect from the wide range of therapies used, one setting was used predominantly. Between one-fourth and one-half of the group received some therapeutic help in rehabilitation centers, hospitals, special schools, clinics, and at home. The fact that half reported receiving some therapy in their home probably indicates the family's involvement in the physical therapy programs of these youth.

Certainly this group used many different therapeutic procedures and did so for extended periods. Although our data does not permit any sound assessment of the timeliness and appropriateness of the therapies used, there is some suggestion that such critical help as physical therapy and speech therapy was sometimes started later than desirable or not utilized when needed. Hopefully with the advances in both the numbers and quality of rehabilitation programs such would less often be true now than in the 1940-55 period.

Planning for, Selecting, and Securing Admission to College

This problem area is of major concern to interested CP students, to counselors and to parents.

Roper

Gaining admission to college is a problem many youth and their parents face, but it is not known whether students with CP face any greater or different problems regarding this than do most students. We do know from Roper (1947) that 87 per cent of those applying for college were admitted somewhere; even in the college-swollen period of 1947 most people trying to enroll in college were able to do so. Our findings offer some reason for optimism and at the same time suggest some cautions to college bound CP's and their parents.

Parental expectation: When students were asked to state parental expectations for their future, the responses of the CPCS and NI groups were much alike, with the exception that 36 per cent of the latter group mentioned educational goals as against only half as many CPCS. About one-fourth of both groups mentioned a happy, normal life and the same proportion cited high professional goals. One other difference of possible significance for educational planning was the perception of 11 per cent of the CPCS that their parents had low job expectations for them; only one NI student held a similar opinion. A majority of the CPCS group felt parents favored a higher education for them, but about ten per cent saw parents as opposed to higher education; and a similar proportion reported parents as holding opposing views on this.

The majority of the parents of the CPCS group had always expected their child to attend college. Of those who were opposed to a college education for their youngster, about 40 per cent changed their view because of the enthusiasm of the child, while one in five mentioned either the child's scholastic ability and aptitude or his ability and health. These parents appear to have as much influence and interest in their children's going to college as most middle class parents. Although there were specific instances in which the parents or subject's seemed to view college going as a postponement of the vocational adjustment problem, this did not appear as widespread as has been suggested by Fleischer (1953) and Whitehouse (1950).

Application and admission to college: Fewer CPCS reported being turned down for admission by some colleges than one might anticipate; only one-third said they had this experience. This was still markedly more than for non-impaired students among whom only one in eight had experienced being turned down. Most of the study group applied to only one or two schools; about one-fourth applied to two and only one in five tried for admission at three or more institutions.[1]

Although the difference was not great, more CPCS (50 vs. 37 per cent) than NI attended more than one college. This information, collected while most of the respondents were in college and beyond their sophomore year, probably reflects the actual pattern, since most transfers occur during the first or second years.

A high proportion (80 per cent) of the CPCS felt that college admission personnel were as helpful as possible. Of the group who had some reservations about this, only five per cent expressed distinct dissatisfaction. On this matter, the two groups in this study responded much the same.

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[1] Appendix G is a list of colleges attended by cerebral palsied students participating in this study.

Although admission personnel were usually considered helpful, about one in twelve CPCS agreed with the view that "When they find out you are cerebral palsied, most colleges lose interest in your coming to their school."

As seen by the parents, there was no particular problem faced by the CPCS group entering college. The most frequently mentioned difficulty listed by one in five parents was that of selecting a college. Being admitted, dealing with health problems and having basic study skill deficiencies were recorded by ten per cent of the parents. A few parents mentioned financial problems, social relations, relationships with faculty, and career planning as key problems at this time. Another 20 per cent said there were no difficult problems. Although some counselors and educators perceive parents of the severely handicapped as somewhat aggressive in furthering the educational goals of their children, only one-sixth of the parents of this group reported talking to college personnel in an effort to help their child enter college.

A clear majority of both the CPCS and NI groups thought high school experience was excellent preparation for college life and acacemic work; but about one-fourth of the CPCS group and one-third of the NI group thought it was deficient.

When asked to list the three persons most helpful in planning for college, the majority of both groups cited their parents. Teachers or school administrators were next most often mentioned and school counselors were listed by about one in five students. One-third of the CPCS group gave priority to their mothers as the most helpful person, while only half that many gave priority to fathers. In the case of the non-impaired, this order was reversed. This is one indication of the importance of the mother's role in the life of the CPCS, and suggests that the CP college students, because of a closer maternal dependency, would be subject to a greater maternal influence than the NI students. It further suggests, that the mother in a family with children with cerebral palsy, may be the dominant parental figure, at least for the CP child.

Both groups felt teachers, administrators, and school counselors were helpful. About one-half of the NI group and 40 per cent of the CPCS found teachers to be helpful. The CPCS turned to school counselors slightly more often than did his non-impaired peers and, of course, occasionally listed rehabilitation counselors among those most helpful. On the other hand, the non-impaired more frequently turned to other relatives and to friends for help.

Although a majority of the CPCS received financial help from the state vocational rehabilitation agency and talked to rehabilitation counselors, only one-fifth of them listed the counselor among those most helpful in college planning. Although two-thirds of the groups turned to school counselors and a majority of the CPCS worked with rehabilitation counselors, neither group set great value in the help counselors gave them in planning for college. These data reflect the opinions of two student groups and cannot be construed to show the real or potential value of counselors to college going youth.

Study Skills

Since we hoped to learn how college students with cerebral palsy cope with the demands of student life, one of the areas which we explored at considerable length in the structured interview was "methods of study." The CPCS was asked to describe his study methods for four major tasks: notetaking, taking examinations, preparing reports and performing laboratory tasks, his satisfaction with the methods and how his method differed from other students.

Notetaking: Rather surprisingly, their method for taking notes was no different from that of fellow students. Almost one-half indicated they took their own notes and the remaining 50 per cent borrowed notes, secured carbon copies from their classmates, or did not take notes at all, but relied on memory for recall. Many took skeleton notes or developed a shorthand for taking notes. This procedure did not alsays prove satisfactory, since it frequently required a great deal of additional work in order to expand the brief notes or the personal shorthand became too cryptic for practical use. Some used carbon copies or recopied the notes of others, but relatively few mentioned using photocopying procedures. The modest cost of photocopying equipment today makes this procedure more feasible and might provide the CPCS with a quid pro quo in his relationships with students whose notes he used.

In preparing students to cope with the critical notetaking demands of college, it appears that counselors need to help the college-going cerebral palsied youth to accept the need and desirability for utilizing the notes of others. Along with this, the CPCS may need help in judging who can supply him with suitable notes and in thinking through how mutually satisfactory arrangements can be made with students who can help him. Our data suggests that CPCS often do not secure useful lecture notes. Certainly the counselor needs to encourage more positive attitudes toward the use of help and the thoughtful consideration of a variety of methods for coping with notetaking and other student tasks.

A few students used tape recorders; however, they were difficult to use in the classroom and inefficient since they required re-listening to the entire lecture, and were not useful for a quick review of major topics.

Despite the major problems encountered by some of the CPCS group, only a minority (19 per cent) indicated more dissatisfaction than satisfaction with their notetaking procedures. On the other hand, one-third of the group described themselves as very well satisfied, and another one-third were satisfied with the adequacy of their notetaking.

Such feelings may be the result of low expectations regarding the quality of notes which are needed and useful to college students. Our data and observations strongly suggest that the pre-college preparation and counseling of college-bound students with CP should include examination of their present skills in this area and development of plans for effectively meeting college demands for these skills.

Reports: Only one-fourth of the CPCS differed from their peers in methods used for preparing reports. Although a few students dictated their reports to someone else for writing or typing, the major procedure seemed to be to either work directly from very brief notes, or from books, and then to type the notes on electric typewriters. Some, of course, used a grill to protect the keyboard from random movements and at least one student typed on his electric typewriter with a stick in his mouth. In describing report writing problems the CPCS did not discuss procedures used to gather and record material prior to the writing of the manuscript. Some impressions regarding the problems of the CPCS in notetaking will be elaborated in our findings concerning use of the library. Nearly all of the CPCS were satisfied with the adequacy of their way of preparing reports; fewer than one in ten expressed dissatisfaction.

Examinations: Because of the slow rate at which many CPCS write, we expected many would make unique arrangements for examination taking. Although about one-fourth of the CPCS took the examinations in exactly the same fashion as other students, the majority of the students used one of several adaptive methods for competing on examinations. Some secured more time to take the examination, either under individual supervision or under honor system rules. Another one-fourth of the students made special arrangements for handling the mechanics of examination taking. These included arranging to be examined orally, dictating answers to a student or secretarial recorder, or taking the examination with the use of a typewriter, either in a separate room or in their own dormitory room. The comments of the students regarding their problems and experiences in taking examinations suggest that it is a difficult and exhausting taks for some CPCS. They also suggest that there are a variety of approaches which can be used, depending upon the skills and circumstances of the student. As one student put it, he made special arrangements for each class. Once he got used to it, it was a matter of course. Despite the apparent problems, a surprisingly high proportion (80 per cent) of the CPCS were satisfied with the adequacy of their way of taking examinations.

Laboratory work: A small proportion (13 per cent) indicated they completed lab work with some improvisations, while another one-fourth of the group worked with a partner who helped or made arrangements to secure help for the CPCS in the manipulative aspects of their laboratory assignments. Laboratory work was accomplished through observation of other students in the performance of labs, then preparing reports on the basis of these observations. Still others took substitute courses which did not require a lab session, such as philosophy of science or geography. Those CPCS who attempted to meet the same laboratory requirements as other students developed techniques for bracing their apparatus or holding their specimens which permitted them to complete the assignment even though it usually took more time. Here, again, a clear majority of the students were satisfied with the adequacy of the they handled the laboratory work.

The overall impression is that in some areas, such as taking notes and examinations, students have developed a variety of procedures to cope with the demands of the task while in other areas they primarily used conventional procedures with some modification. There seemed to be a rather widespread reluctance to accept the need for developing techniques which would permit the CPCS to meet the same standards of performance as their peers. This attitude seemed to reflect a self-consciousness and unwillingness to ask for special consideration, even though minimum effort on the part of the instructor was required to provide a richer learning experience for the student.

One avenue for providing help with study skills and related problems might be group procedures which would not only provide an economical counseling and learning source, but also provide social support and facilitate learning among peers with common goals and problems. Small group counseling and instruction could be used for developing attitudes and approaches for more effectively exploiting the opportunities of college for CPs and other severely impaired students.

Financing College

Patterns of financing used by CPCS students were not greatly unlike those used by non-impaired students. There are some note-worthy differences. Parents of the CP group contributed a larger share of the cost of education than did the parents of the NI group. While two-thirds of the CPCS reported that parents provided 71 per cent or more of their college expenses, only one-third of the NI group did so. More than three times as many non-impaired students secured little or no help from their parents.

Assistance from state vocational rehabilitation agencies provided an unique source of assistance for the CPCS. More than half of the study group received about 25 per cent of their college expenses from VR agencies. One-fourth of the group getting assistance secured 50 per cent or more of their expenses from this source. More of the NI group secured college expenses by working than did the CPCS group. While more than one-fourth of the NI were able to fund a significant portion of their college expenses, only three of the CPCS financed as much as one-fifth of their college costs. The summer job as a source of funds for college was also used to a much greater extent by the non-impaired than by the CPCS. However, 10 per cent of the CPCS group did secure some funds by working during summer vacations. Although some members of both groups provided for a portion of their college expenses through savings, relatively little use was made by either group of various educational loans or scholarships available to all students. It appears that neither turned to those alternatives. Three-fourths of the CPCS as compared to one-half of the NI had no problem in securing finances to meet college expenses. Very few CPCS indicated difficulties with finances during college. The non-impaired group often had more difficulty than did the CPCS group.

Self Care and Getting Around Campus

Although one might anticipate that getting around the college campus would be a major problem for students with cerebral palsy, 60 per cent of the group indicated no difficulty whatsoever, and only one-eighth of the group reported considerably or extreme difficulty in moving about campus. More women than men CPCS seemed to have mobility problems, but this difference might well arise from different attitudes toward their disability. This explanation is partly supported by the fact that twice as many women as men modified their techniques or mode of getting around after they entered college; however this group represented only one-fifth of the sample. Five-sixths of the group saw themselves as either "mostly independent" or "completely independent", while the other one-sixth felt dependent to some degree. Meeting daily personal needs while in college was a problem for one-fourth of the CPCS, women mentioning this difficulty twice as often as men. Almost one-half the women students developed techniques and gimmicks for taking care of their daily needs; and in the total CPCS group one-third developed new techniques.

In general the women members of this group saw themselves as being somewhat less independent than did the men. Women were more likely to indicate problems and new approaches to taking care of their daily physical needs, and at the same time, more frequently reported changing their procedures for getting around campus. When asked "do you have any techniques or gimmicks in taking care of these needs which might be of help to others if they knew about them?" the CPCS told of a great variety of procedures, many of which were well known, but some of which were unique. Several mentioned grab-bars on their bathtub or shower and soap sewed into a washcloth. One individual used a chair in a shower where water came from the side rather than from above. In shaving, one man leaned on the mirror and moved his head rather than his electric shaver.

A great many comments were made about the type of clothing, clothing-fasteners, and procedures for dressing and undressing. Students mentioned the importance of wearing clothes that could be managed such as slip-over shirts, zipper shoes, clip-on bow ties, and shoe buckles instead of shoe strings. Other variations included the use of snaps instead of buttons on clothing, shoes without laces, and elastic sewed on the bottom of shirts. Buttons and zippers presented a daily problem for several; some used simple fasteners in place of buttons, while others donned unbuttoned shirts or dresses. Still others found they could master the button problem, which was met primarily by using a zipper pull, or S-type hook on a stick. In some instances, the individual decided to avoid clothing with zippers.

Women, because they were expected to sew and iron their own clothes, developed techniques not mentioned by men. For example, some selected clothes made of drip-dry materials to eliminate ironing. One girl dressed sitting on the floor to avoid the problem of balancing. Several women mentioned the need for careful planning in purchasing clothing, and the need for enough time to dress in a relaxed manner. One girl also mentioned various procedures to accommodate the responsibilities of independent living. For example, she spoke of using a sponge around a broom to enable her to secure a good grip; others used threaders for needles, zipper pulls and special knives for peeling potatoes. There seemed to be a feeling that meeting and solving problems was an individual need, and that most problems of daily living were not insurmountable.

Several students reported considerable difficulty in moving about campus, especially where ramps were not provided for entrance to classroom buildings. The more severely impaired CPCS used electric wheel chairs quite readily and several mentioned using electric golf carts which they found quite effective in moving about campus. Independent movement by the severely impaired through-out the campus was facilitated where well designed accommodations were provided. For example, students at the Universities which had not eliminated or minimized architectural barriers, found it necessary to secure special assistance and even then could not always meet their regular classes.

Post-College Attitudes Toward College and Education

Attitudes of CPCS toward college and education were measured by identical questionnaire items in 1959, and in 1966. Significant changes in eight out of eleven attitudes were found. Several years absence from college seemed to change the views of the CP group towards the college experience. However, the attitudes expressed in 1966 toward the value of college and the educational experience remained as favorable as the earlier ones.

On a five-point Likert scale ranging from strongly agree to strongly disagree, the post-college CPCS scores were found to be similar to the college attitudes on the following statements: (1) "I would say that in general my professors in college think (thought) of me as being like any other student in their class." (2) "According to my experience, the attitude of the faculty at my college is (was) discouraging for students with physical disability." and (3) "Social life is as important as academic life."

The follow-up attitude questions showed an increased dissatisfaction with the quality and type of education the CPCS personally received. On the other hand, subjects were less willing to be critical of the general value of college and college teachers in general. For example, CPCS rejected the notion that college breaks down ideals. Charges of production line teaching were even less accepted. With respect to their ability to make friends, the CPCS expressed having more difficulty after they left college, than when in college. When the attitudes of college men and college women were studied separately, response patterns were generally similar to those for the entire group. Because of the small samples, only a few of these differences proved to be significant.

Inability of a significant portion of the CPCS group to obtain jobs at a level suitable to individuals with a college education may account for the greater dissatisfaction with personal benefits resulting from a college background. On the other hand, the reluctance of this group to be critical of colleges and college teachers in general, may have derived from a need to value higher education. Thus, the CPCS is in a position to minimize the dissonance between an attitude and a major value in his self concept. "Now that I have a college education, I can hardly devalue my experience."

Predicting the College Adjustment of CPCS

To study the correlates of college adjustment among college students with cerebral palsy, Hutchison (1965) used various ratings, test scores, and biographical data. For the most part, he found that ratings of adjustment cound not be predicted from such measures as mean ratings of intelligibility of speech, ratings of early childhood adjustment, MT scores (Kleinmuntz, 1960) on the MMPI, Readiness for Self-Referral to Sources of Help, family environment, and parental expectations for college attendance. The only variable significantly correlated with college adjustment was the size of the community; those who came from larger communities made better adjustments to college life. However, the correlation was low (.35). It seems likely that the better educational and rehabilitation resources of larger communities contributed to this relationship.

To secure measures of college adjustment, childhood adjustment, and intelligibility of speech, judges rated appropriate sections of the interview schedules or listened to segments of the tape recorded interviews. After a period of training and practice, judges made independent ratings which were pooled to secure the ratings used in the study. Whenever the raters disagreed markedly in rating an individual, they discussed the rating in order to settle upon the most appropriate rating. Although raters agreed at a satisfactory level, it still may be that these ratings are inadequate indices of the phenomena for which they were named. Hutchison found there was no significant relationship between rated college adjustment and undergraduate grade point average; further, that while speech intelligibility ratings proved non-predictive of college adjustment ratings, there was a significant but low positive correlation between these ratings and the Mt maladjustment scores on the MMPI. This relationship was most pronounced for CP college women.

Faculty Attitudes Toward Students with CP

The importance of teachers in educational programs cannot be underestimated. Therefore, to study the quality of the relationship between instructors and college students with cerebral palsy, responses from faculty members who knew them best and statements regarding the professors taken from the structured interview with CPCS were examined.

Each student participating in the study was rated by a faculty member of his choice. A clear majority of this faculty group felt they were better acquainted with the student they were evaluating than with other students.

About half of both the study group and the non-impaired comparison group indicated they had encountered problems with college instructors. Further questioning revealed that about half of the CPCS group had a professor they did not like. Contrary to what some people might anticipate, the faculty was not perceived as unknowingly overhelpful by many of the CPCS group. In fact, responses of the group were much like those of the non-impaired.

When asked to characterize the CPCS, a majority of the faculty members mentioned the high achievement needs of the students. To a lesser extent, instructors attributed the success of these students to such traits as intelligence, interest, enthusiasm, desire to be self-sufficient, self-acceptance, and interpersonal skills and characteristics.

Major hindrances for CPCS, according to faculty members, included deficiencies in communication skills, especially speaking and writing; difficulties in relating to others; being accepted by peers; and finally, physical limitations associated with a handicap. Intellectual limitations were listed as a hindrance in very few instances. When asked what the most difficult things were for individual CPCS to do, faculty members repeated many of the hindrances listed above. About one in five added that it was difficult for students with cerebral palsy to meet most academic assignments and responsibilities.

According to the descriptive phrases and adjectives selected from an Interpersonal Check List, instructors generally saw students as being self-respecting, self-reliant and cooperative, as opposed to being competitive and narcissistic.

When asked to suggest ways in which severely impaired individuals could be helped in college, a wide variety of suggestions were given, the two most prominent being the need for improved counselor and advisor services and greater acceptance of the severely impaired students by the faculty and non-impaired students. Job placement planning, better physical accommodations, provisions for special services, improved understanding by the faculty and students of the disability, modified procedures for selecting and preparing students for college, and modified instructional procedures such as small classes and tutors were mentioned. Greater effort, the faculty believed, on the part of instructors and other students toward accepting the impaired individual would substantially aid the impaired student in his college aspirations.

In listing the non-intellectual factors important in evaluating the suitability of a severely disabled student for college study, a majority of the respondents mentioned: the CPCS attitude toward his physical disability; emotional stability; drive, motivation; persistence; and, interpersonal skills and attitudes. To a lesser degree, respondents were concerned with the student's physical capacities, as opposed to the demands of his environment, his speaking and writing ability, and the realism of his vocational planning.

In responding to four Likert type attitude items, faculty members agreed it was not necessary to substantially modify class procedures to accommodate CP students. They felt, however, that colleges admitting CPCS students should provide special student-personnel services.

Teachers did not have consensus on two items. To the question: "In his course with me, I made arrangements to help the student deal with his disability problems," the median response indicated teachers had helped although a substantial portion of the teachers had not.

There was even less agreement in response to: "Even if the cerebral palsied student failed in college, she (he) is 'better off' for having attended." About one-fifth of the respondents were neutral, while the remainder were divided about equally between Yes and No answers. Apparently, there was some concern about the negative impact of the college experience upon the student. The rationale for this concern, which runs counter to the general positive evaluation of college, cannot be determined from our data and might well be a subject for more extensive study.

General Adjustment

CPCS and non-impaired post-college groups when asked to indicate "the happiest period of your life," did not differ. A majority of both groups indicated the present as happier than the past, when they were in college or in high school, or when they were quite young. There was some variance between the two groups as to why they were happy at this particular time; however, most responses indicated personal reasons. Reasons for this happiness differed significantly: 3516 per cent of the non-impaired group indicated marriage and family relationships as compared to 13.0 per cent of the cerebral palsied group. Among the cerebral palsied group, their present happiness was most often associated with their work. While for the non-impaired group work was second in importance to family life satisfactions. On the other hand, during the post-college period, dissatisfaction with work was the most frequent source of dissatisfaction among respondents of both groups. In general, the post-college years are considered a happy time for the majority of both groups. They also felt that their high school years were the unhappiest period of their life.

In coping with current and past problems, 44 per cent of the CPs, as compared with 21 per cent of the non-impaired group sought psychiatric or psychological help for their problems. Thirty one per cent of the CPs and 21 per cent of the non-impaired sought religious help. The majority of both groups indicated they sought assistance only when a great deal of help was needed. They said the source of their problem was personal, financial, limitations because of a handicap, vocational, interpersonal, security, family, marriage, or religion.

Employment

Vocational Orientation: Cerebral palsied college graduates with vocationally oriented majors earned more money than those who pursued a less vocationally oriented curriculum. Significant differences in mean salaries earned are shown in Table 3. The differences also apply to CPCS completing undergraduate study which was, in part, vocationally oriented. Thus, the more vocationally oriented the undergraduate major, the higher the salary.

TABLE 3

DIFFERENCES IN SALARY LEVEL AMONG CPCS OF DIFFERENT
DEGREES OF UNDERGRADUATE VOCATIONAL ORIENTATION

			Between Group "t" tests	
	N	Mean Monthly Salary	2	3
1. Undergraduate major not vocationally oriented	14	$250	3.49*	6.77*
2. Undergraduate major vocationally oriented	33	$464		1.11
3. Undergraduate major somewhat vocationally oriented	8	$550		

* Significant beyond the .05 level

As indicated in Table 3, the difference in salaries between cerebral palsied college students who pursued non-vocationally oriented majors and those who followed a vocationally oriented major, was statistically significant. The small size of the somewhat vocationally oriented group does not provide a stable basis for assessing the differences, however, the data do suggest that individuals whose college program includes both liberal arts and vocationally oriented preparation may eventually earn better salaries than those who follow a strictly liberal arts or vocationally oriented program. The capacities the individual brings to his studies, and subsequently his work, may be the effective variable rather than the type of program he followed. The findings also indicate that CPCS are quite likely to have enrolled in a program with either a substantial or partial vocational orientation. The available data from the non-impaired comparison group indicate they too, in most instances, follow a vocationally oriented program, and subsequently are able to secure employment related to their college work. About half of the CPCS do not perceive their work as substantially related to education, while the parallel figure for the comparison group is 75 per cent. (See Appendix E).

It seems clear that for some cerebral palsied college graduates there are real barriers to using their talents in relevant work. Whether this is a function of rejection by employers or misguided educational or vocational planning cannot be determined from the data available. Since the latter barrier is more readily susceptible to change by rehabilitation workers, it seems reasonable to recommend greater care in planning, by counselors, parents, and college going cerebral palsied students.

Table 4 shows the salary received per month on their present job. Subjects were divided into high and low income groups with a cut-off point of $499 per month.

TABLE 4

INCOME OF RESPONDENTS

	Cerebral Palsied			Non-Impaired		
	Male (N=48) %	Female (N=25) %	Total (N=73) %	Male (N=12) %	Female (N=8) %	Total (N=20) %
Up to $199.99	9.8	16.2	12.1	4.8	0.0	2.9
$200.00 - $499.99	41.1	48.4	42.9	33.4	46.2	38.2
$500.00 and over	49.1	35.4	45.0	61.8	53.8	58.9

The relationship of employment to college preparation: The most significant and surprising finding of the preliminary study was that approximately 90 per cent of the CPCS were employed (Appendix D). Previous studies on employment of persons who have cerebral palsy reported that only a small proportion (20 to 33 per cent) of the general adult cerebral palsied population were employed (Cardwell, 1956). The high rate of employment among cerebral palsied who had attended college suggests that the relationship of level of employment to education, job satisfaction, vocational behaviors, and other characteristics merits study rather than examination of successes and failures.

Only four per cent of the cerebral palsied post-college students were unemployed, and the overwhelming majority, 88 per cent, were employed (Table 5)[1]. A similar majority was reported by CPCS in the preliminary phase of this follow-up study (Appendix D).

Previous studies have found that when employment is used as a criterion for successful rehabilitation, CP s as a group are not successfully rehabilitated. However, the findings of this study indicate that with employment as the criterion, CPs who attended college have been successfully rehabilitated. While only four per cent of the CPCS college-educated group were unemployed, 70 to 80 per cent of adult CPs, in general, have been substantially unemployed. Although it was anticipated that the employment rate for college-educated CPs would be higher than for other adult CPs, the difference was not expected to be so marked. Abviously, the probably contribution of college to employability must take into account the impact of self-selection and screening by schools in determining who goes to college.

Undergraduate academic record: Cerebral palsied college students working in jobs closely related to educational background, exhibit better undergraduate academic records than did those employed in positions not closely corresponding to their educational training. Of the eight personal characteristics on which both groups were tested, undergraduate point average is the only area in which a significant difference was noted.

To further examine the relationship between undergraduate GPA and Employment Relatedness Scale ratings, statistical tests of the differences between CPCS groups at the several levels of the ERS scale were made (Appendix E). Although a neat steplike progression linking grades and ERS ratings did not appear, comparison of the high and low groups confirmed the above findings. This, in part, suggests that CPCS who do well in school can compete for jobs suited to them.

An alternative interpretation might be that academically successful students follow programs of study with a marked vocational orientation. Since the work and Employment Relatedness Scale ratings were found not to co-vary with intelligence, other factors associated with academic success, such as motivation and work habits, may, in part, be determining factors.

No substantial differences between high and low ERS groups were revealed when personal characteristics were studied by the Minnesota Multiphasic Personality Inventory (MMPI). When compared on the MMPI scales, CPCS scoring high were found not to differ from those scoring low. MMPI data were only available for those students who had been intensively studied on the original research.

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[1] See page 59 of text.

MMPI scores for high and low ERS groups are shown in Appendix F. Although not markedly different, some of the personality scores suggest possibilities which might be studied further; e.g., the Psychasthenia and Schizophrenia scales for men, and the MMPI depression scale for women. These findings suggest that those individuals in related employment experiences less depressive feelings than did those in less related employment.

Personal characteristics: The personal characteristics of CPs employed in occupations related to their education were compared with those employed in unrelated occupations. Comparisons were made on such variables as the Ohio State Psychological Examination scores, uses of help, socio-economic status, college adjustment ratings, intelligibility of speech, degree of disability as rated by the subjects, subjects' expression of general adjustment, and undergraduate grade point average. Except as previously noted with regard to GPA, no significant differences were obtained. Thus, the CPCS's prospects for employment in a job related to college preparation have no association with a wide range of cognitive and affective measures. Although other measures of personality might reveal traits which would be predictive of a CPCS's chance for entering suitable work, the present findings offer little promise for such predictions. These results are also congruent with thos reported by Hutchison (1966) in his study of CPCS adjustment to college.

Thus, it appears that the individual's orientation toward work, and his recognition or acceptance of the importance of good academic performance in employability, are much more significant determinants for entering suitable occupations than are other personality indices. It seems desirable then, for counselors, teachers, and parents to encourage and assist CPCS in developing appropriate work and achievement orientations.

Attitudes toward college and work: The general attitudes of employed cerebral palsied persons, both in high and low ERS groups, are essentially the same (Appendix F). However, two significant differences merit mention.

First, CPs with high ERS scale ratings placed more importance on the social-personal aspects of college, than did those rated low on the scale. Interestingly, both the non-impaired former college student group and the cerebral palsied post-college student group heavily endorsed (85 per cent) the importance of social and personal aspects of college.

Again, in response to the statement "My present job is like the work I hoped to do when I finished college", the two groups differed. CPs employed in jobs related to their education responded in a more positive manner than those in unrelated work. Apparently, those with high ERS ratings decided, while in college, what they wanted to do in the future and pursued that vocational goal. Nearly three-quarters of the non-impaired group (74 per cent) responded positively to this statement, while less than half of the CPs (45 per cent) gave a positive answer. The suggestion is that more non-impaired college students reached their vocational goals than did cerebral palsied students.

Vocational behaviors: In determining the extent to which employed post-college CPs believed a college education contributed to their life and work, scores on eight vocational behaviors were studied in relation to each classification of the Employment Relatedness Scale. The results are summarized in Appendix E, Table 12. Further analyses were made of the seven vocational variables found to be significant.

Cerebral palsied persons with the highest ratings on the Employment Relatedness Scale expressed the greatest job satisfaction.

Job satisfaction: Job satisfaction was measured by utilizing parts of the "Hoppock Job Satisfaction Blank." Since Kates (1950) found that Parts 3 and 4 of that blank correlated .90+ with Parts 1 and 2 of the Job Satisfaction Blank, only those items were included in the follow-up questionnaire. Each subject subsequently marked how he felt about changing his job and how much of the time he felt satisfied with his job. In the analyses these two scores were added to secure a combined job satisfaction score. Unfortunately, in the follow-up study, 30 per cent of the CPCS and 50 per cent of the non-impaired did not complete the satisfaction questions.

No significant differences were found between CP's and NI's responding to job satisfaction question. Eighty-four per cent of the non-impaired and 79 per cent of the cerebral palsied said they were satisfied with their jobs more than half of the time.

Comparisons between the responses of low and high ERS groups to the Hoppock scales indicated that those individuals in jobs most related to education, also liked their jobs more than those working in less related jobs. In a word, those whose education prepared them more directly for their jobs were most satisfied with what they were doing.

The definite relationship between ERS ratings and job satisfaction further substantiates the need for educational and vocational planning. Persons with cerebral palsy who do not have college vocational preparation may have to accept jobs and even be satisfied with jobs which are innapropriate for their background, a fact which counselors and others should consider when advising cerebral palsied persons. It appears desirable for the counselor and the client to develop acceptable and suitable educational and vocational plans, if the goal is to achieve client job satisfaction

Job skill level: The subject's response to "Present Job Title" was classified as: (1) professional, (2) managerial, (3) clerical and sales, (4) service, (5) agriculture, fishery, etc., (6) skilled, (7) semi- and unskilled, (8) teaching and (9) miscellaneous. To facilitate analysis these were combined into the four classes shown in Table 5.

In general, employed cerebral palsied persons felt that, although they possessed only average ability, more than this was necessary to do their work. Differences in the amount of ability necessary to do their jobs was proportionate to ERS ratings -- the higher the rating, the more ability was expressed as necessary or required to perform satisfactorily on the job. This was not, however, consistently in a positive direction from low to high ERS ratings. Those whose jobs were rated as "definitely not related" to their education, felt it took very little ability to do the job they presently held, and consequently, felt they were working below their own ability level. Differences between adjacent ERS groups were not large, but the difference between high and low groups was significant. Sixty-four per cent of the cerebral palsied persons stated they had average or better ability for the job in which they were employed. On the other hand, 93 per cent of their non-impaired peers considered themselves average or better.

TABLE 5

SKILL LEVELS OF CEREBRAL PALSIED AND NON-IMPAIRED POST-COLLEGE STUDENTS

	Cerebral Palsied			Non-Impaired		
	Male (N=49) %	Female (N=28) %	Total (N=77) %	Male (N=14) %	Female (N=9) %	Total (N=23) %
1. Professional, Managerial, Teaching	50.0	52.9	50.6	75.0	85.6	78.9
2. Clerical and Sales, Skilled	29.1	20.5	26.4	4.2	7.1	5.3
3. Service, Agriculture, Fishery, etc., Semi-skilled, Unskilled	11.3	8.8	10.6	4.2	0.0	2.6
4. Miscellaneous	9.7	17.6	12.6	16.7	7.1	13.2

The majority of the CPCS felt that they had no more difficulty keeping a job than other people. Job keeping difficulty was rated on a five-point continuum from (1) "Considerably more difficult than for others" to (5) "Considerably less difficult than for others". The majority of the CPs (69 per cent) thought they had "About the same amount of difficulty keeping a job as did other people." Those CPs with high ERS ratings thought it was less difficult to keep a job even though cerebral palsied than did those with low ERS ratings. Although the CPCS, as a group, do not feel they have any greater difficulty keeping a job than their non-impaired peers those in jobs related to their education definitely expressed more confidence in their job keeping ability.

There was little expressed difference between ERS groups with regard to job getting difficulty. As a group cerebral palsied respondents thought they had about as much trouble getting a job as did their non-impaired peers.

Comparisons between cerebral palsied and non-impaired post-college students on employment relatedness and it's correlates: As Table 6 shows, a greater proportion of non-impaired college students than cerebral palsied students were employed in occupations related to their education. Thirty-three of the 103 cerebral palsied college students presently employed were judged to be in employment not, or only somewhat, related to their education. This was true for only two of the 38 non-impaired college students who were employed.

When all CP's were compared with all NI's with respect to judged relatedness of employment to education, the difference in proportions was significant. Separate analyses by sex showed that the difference held for both males and females.

Twenty-one of the 68 employed male CPCS were presently employed in occupations only somewhat or not at all related to their education. This was true for only one of the 23 employed male NI college students. The findings were essentially the same for the female subjects, with only 42 per cent of the female CP's employed in occupations definitely related to their education, as opposed to 87 per cent of the non-impaired female college studnets.

Among the CPCS, men and women did not differ in the extent to which their employment was related to their education.

As the above shows, non-impaired college students are employed in jobs rated higher in occupational classifications than are CPs. They were more frequently employed in the professional, managerial and teaching classifications than the CP's.

There were few differences in vocational behaviors between employed cerebral palsied and non-impaired post-college students. Four of the 11 comparisons on vocational variables were statistically significant. In the main, it appears that job satisfaction, length of work week, and evaluation of amount of ability subject thinks it takes to do his kind of work are quite similar for the two groups.

Compared to the CPCS more of the non-impaired group believed that there was a relationship between their education and their work. More also expressed confidence in their ability to do the job they held. Although a substantial majority of both groups thought their education was related to their job effectiveness, the NI proportion (84 per cent) was significantly greater than for the CP group (53 per cent). When their views about their ability to handle their jobs were compared, the difference favoring the non-impaired was much more dramatic. Nearly all of the NI group (93 per cent) thought they could do their job in a better than average fashion, whereas only about half (55 per cent of the CPCS thought so.

TABLE 6

EMPLOYMENT RELATEDNESS SCALE RATINGS OF CEREBRAL PALSIED AND NON-IMPAIRED SUBJECTS

	Cerebral Palsied			Non-Impaired		
	Male	Female	Total	Male	Female	Total
0 Unemployed	3	2	5	0	0	0
1 Employment Definitely Not Related to Education	14	7	21	0	0	0
2 Employment Somewhat Related to Education	7	4	11	1	1	2
3 Employment About Half Related to Education	9	4	13	2	0	2
4 Employment More than Half Related to Education	8	6	14	3	1	4
5 Employment Definitely Related to Education	30	14	44	17	13	30
6 Housewife	0	8	8	0	3	3
7 Student - Education Continuous	1	0	1	5	0	5
TOTAL	72	45	117	28	18	46

The one difference on which the PC group surpassed the NI was job tenure: half of them had been on their present job 36 months or longer, while this was true of only 28 per cent of the non-impaired. This result may be a function of the relative length of time the two groups have been out of college rather than basic differences in job stability. The NI's are comparatively recent graduates; only 20 per cent had graduated prior to 1959 whereas 55 per cent of the CP group was graduated by that date. Thus, the greater mobility of the NI group may arise from job exploration immediately after leaving college. It may also arise from the greater range of opportunities available to the NI than to the CP.

CHAPTER V

SUMMARY

Objectives of the Study

This research investigated the problems of college students who have cerebral palsy, and the barriers with which they may be confronted during post-college employment years. To determine the special needs of this group, the following areas were investigated:

1. Situations encountered in college, and methods used to overcome difficulties.

2. The student's evaluation of a college education.

3. The effect of educational experiences and personal characteristics on post-college employment.

Extensive data on CPCS attitudes, needs, academic successes and adjustment during pre-college and college years were obtained and related to post-college vocational and personal adjustment. Investigations provided information concerning: the nature of pre-college, educational, and employment experiences; the extent to which experiences during college were beneficial; how the student felt about his college education and employment experiences; and how college influenced the student's ability to secure suitable employment.

Need for the Study

Until this study was published, no specific guidelines existed for college personnel concerned with counseling and guiding cerebral palsied college students. As members of society, these individuals have the same rights and responsibilities as unimpaired citizens. However, to exercise these rights and responsibilities, and to actively participate as members of society, the cerebral palsied must develop acceptable skills, knowledge, and personal traits -- tools that may become available through a college education.

The United Cerebral Palsy Association, in 1956, estimated a cerebral palsied population of 550,000 in the United States. Based upon data regarding the intellectual and physical capacities of the cerebral palsied, the authors estimate about 50,000 persons with cerebral palsy have the potential for college work. Although preliminary studies reveal that hundreds of cerebral palsied students are attending college, it is reasonable to expect enrollments to increase. Two things that make this likely are the increasing number of universities and colleges modifying campuses to accommodate the severely impaired, and the growing pressure for more education prior to entering regular employment. This increased flow will create a need for additional counseling help both from professionals in the schools, and those in rehabilitation agencies.

College expenses represent only a minor barrier to the cerebral palsied person who is able to meet the intellectual and communication skills requirements of colleges. On the other hand, the intellectual capacity and curiosity to secure a college education may not be sufficient. A student must be able to meet the physical-mobility demands associated with attending college.

The core of normative data presented in the study provides a basis for parents of CP's and rehabilitation and college personnel workers to better understand and advise college-going CP clients toward more realistic and intelligent educational and vocational planning.

This study was designed to provide information to assist cerebral palsied youth in making sound decisions concerning the rehabilitative value of higher education. A group of young cerebral palsied college students provided the data concerning developmental factors that impinged upon their decision to attend college and their ability to cope with college demands. The same individuals described their post-college and employment experiences.

Plan of the Study

Three major approaches were followed in conducting this research:

1. The responses of cerebral palsied college students were tabulated to secure normative data or permit comparisons with findings from other college student groups.

2. Personal, educational and vocational characteristics of cerebral palsied college students were compared with non-impaired students.

3. Personal, educational and vocational characteristics of cerebral palsied college students employed in jobs related to education were compared with those employed in jobs not related to education.

Participants: Only persons enrolled in college in 1959-60, or during the preceding three years were included in the study. A register of 353 CPCS was compiled to secure a sample for this research. Of the 158 respondents to a preliminary questionnaire, 80 individuals, located within easily accessible geographical locations in the Midwest and Middle Atlantic regions, were chosen to comprise the representative sample. This group of 50 men and 30 women were intensively studied.

In the follow-up study conducted by mail questionnaires, 117 of the original group of potential subjects submitted inventories. Data were obtained from a sample of non-impaired college students for comparison in both the earlier and follow-up studies.

Tests, inventories and questionnaires used: A trained investigator conducted the structured personal interviews which focused upon early educational and family experiences, problems faced and methods used for entering and adjusting to college, problems and methods of coping with college requirements, attitudes toward educational experiences, and the nature of work experiences. Each CPCS also completed the Minnesota Multiphasic Personality Inventory, Part I of the Ohio State University Psychological Examination, the Survey of Study Habits and Attitudes, Gough Adjective Checklist, and a variation of the Kelly Role Repertory Test. Questionnaires were also completed by subjects' physicians, teachers and parents.

For the follow-up study, subjects were requested to complete a brief questionnaire, and those who agreed to participate completed a more extended inventory. This phase of the study was primarily concerned with post-college employment experiences. The questionnaire dealt with personal, educational, and employment information, and also elicited comments regarding the students general adjustment and attitudes.

Data analysis: Data were tabulated or scored, and content analysis procedures were used to rate such variables as early adjustment, general adjustment to college, and the relationship between the CP's college education and his present employment. The Employment Relatedness Scale (ERS) was the key dimension in the follow-up study. Correlational, chi-square and analysis of variance statistics were used where necessary to complement sample tabulation procedures.

Major Findings and Implications

Student Characteristics: The concerns and attitudes of cerebral palsied students towards a college education are much like those of non-impaired students. The two groups were similar in age, type of home community, and post-college income and estate value; however, parents of CPCS earned less money and held jobs with less status than did parents of non-impaired students. Both groups felt the social and personal aspects of college were just as important as the academic side of vocational preparation.

Individual differences among college-going CP's are great and counselors and parents must carefully consider the individual capacities and personalities of the cerebral palsied students involved. Not all CP students need intensive and protracted counseling nor do they all face skill and coping problems as students. Career plans for some students work out quite smoothly, while others may be expected to face almost insuperable barriers.

Cerebral palsied persons who have the intellectual and physical capacity to attend college can successfully matriculate; however, some will find it to their advantage to apply for admission to a number of schools and to be persistent in their efforts to enter college. At the time of the initial survey, a large number of private and state colleges admitted cerebral palsied students, and the outlook for finding an acceptable college setting has greatly increased during the last ten years.

As a group, the CPCS differed in some ways from the non-impaired students. Most CPCS had attended large public schools, and did not do as well academically as the non-impaired students. They tended to start elementary school later than the non-impaired and were more likely to have a hiatus between high school and college. The CP youth's educational program lagged at all points. He required more time to complete both undergraduate and graduate study programs than did the non-impaired students, and appeared to progress more slowly in his career. Fewer CP's chose education as a college major, and fewer graduated from college. More CP's chose counseling as a career field than did the non-impaired students.

Although the CPCS in this study were enrolled in every major field of study, more of this group majored in the humanities or social sciences than did non-impaired students. The curricula followed were limited only by the barriers imposed by the individual's impaired communication skills and mobility.

College problems: CPCS need to develop a wide range of novel techniques for coping with basic skills required of college students such as notetaking, preparing for and taking examinations, preparing reports, and doing laboratory work. Counselors, advisors, and teachers can assist CP students in planning specific methods of attack against these basic problems. Attention directed toward devising satisfactory methods for accomplishing student tasks coupled with a healthy attitude toward using assistance should curtail some of the conditions which interfere with the CPCS's full competitive involvement in his studies.

Marked differences also appeared between the groups relative to methods of financing college. More than three times as many CP as non-impaired students secured substantial assistance from parents. Assistance from the state vocational rehabilitation agencies also provided a unique source of financial assistance for the cerebral palsied students.

CP college students did not differ from the NI group in the types of professional workers or other people they seek assistance from, but they do make a greater use of counseling and guidance services and seek help from a broader range of counseling resources. The most helpful traits of counselors, according to the CPCS were the counselor's interest in the student as person and his ability to provide information. Neither group regarded any single source of help as outstanding, but the disabled group infrequently listed the rehabilitation counselor among those regarded as most helpful. This and other findings suggests that before, during and possibly even after college, CP college students need substantial help in educational and vocational planning, and in coping with the personal and physical adjustment problems associated with cerebral palsy.

One out of eight CPCS reported difficulty in moving about campus and one in six reported they felt dependent on others to some degree. A majority felt their disability influenced attitudes of other students; e.g., about one-half expressed the uncertainties of classmates as "they think I can do things I can't", or "they think I can't do things I can." The other half experienced rejection, or stated they were treated with too much sympathy and pity. Ambiguous or unreasonable expectations of fellow students can be modified if the CP student will gracefully accept help when needed, and graciously refuse help when it is not needed. Rejection can be tempered if CP students can show through their interests, activities and competencies that they are unique individuals who should not be responded to in stereotypic ways. They can also try to help others, by their own actions and attitudes, to interact freely and graciously with impaired persons, including themselves.

In general, the CPCS felt satisfied with the help received from teachers and the college admission staff. They tended to be somewhat more positive about the values of college and less critical of their teachers than their non-impaired peers.

Education and employment: The CP has a greater concern for the vocational value of his education, than does the non-impaired student. Whether the college-going CP should be provided with a general education, or one directod toward vocational goals, was a major question of this study.

Important issues affecting the CP's vocational rehabilitation which have emerged from this study include: a need for the CP to utilize more diversified sources of help, a recognition of the state vocational rehabilitation agencies as a source of counseling, guidance, and financial assistance, the needs of cerebral palsied college students, expecially males for counseling and support to ameliorate feelings of seclusiveness and inferiority which could have damaging repercussions in post-college employment.

Prior to and during college, the CPCS had fewer exploratory work situations than did his non-impaired peers, held fewer regular jobs and was less frequently employed. A relatively high proportion of the CPCS expressed satisfaction with summer jobs as possible future employment sources. This attitude was probably influenced by the limited employment experiences and low occupational expectations of this group. It would seem highly desirable for the CPCS to seek and secure more interim and part-time work experiences, which could be accomplished through special programs designed to help CP students along these lines. Additional work experiences in college would provide the CP student with a more realistic understanding of existing career fields and the demands of a paying job, and provide a sounder basis for vocational planning and eventual employment.

The CP who has completed or left college may be expected to take somewhat longer than they typical college graduate in securing and progressing in suitable employment. This may be part of the pattern which is associated with lags in his progress from the elementary school period through college.

If employment is to be considered the criterion for successful rehabilitation of the cerebral palsied, completion of a college education then becomes a major asset. In the follow-up study only four per cent of the cerebral palsied college students were unemployed, while about 70 per cent of adult CP's in general, are unemployed. Of course, college pre-selection factors probably play an important role, not only in college attendance, but in successful completion of higher education and eventual employment.

When salaries received by the NI and CP groups were compared, it was found that CPCS received substantially less for their efforts than the non-impaired. As the skill levels of employment are reviewed it appears that one aspect of lower salaries may be found in occupational classifications. A higher proportion of the non-impaired are employed in professional, managerial, and technical occupations.

Although this study does not categorically prove that a vocationally oriented college education is the most useful course for a CP to pursue, it does indicate that those cerebral palsied college students who did pursue such a course were more often employed in work similar to their training, liked their work more than those who completed non-vocational curricula, and had generally fewer adjustment problems and accounted for higher salaries.

The apparant dissatisfaction reported by CPCS in their post-college jobs may be an outgrowth of their inability to secure positions commensurate with their education. This is substantiated by the findings that compared to CP students more non-impaired post-college students are employed in jobs related to education and more expressed greater confidence in their ability.

Cerebral palsied college students working in jobs closely related to their educational background, had better undergraduate academic records than did those employed in positions not closely corresponding to their educational training. This suggests that CPCS who do well in school can compete for jobs suited to them and may have greater motivation or talent for college studies. Of the eight personal characteristics examined in relationship to the CPCS's Employment Relatedness Scores, undergraduate grade point average was the only one associated with ERS ratings. CP's whose education was highly related to subsequent employment placed more importance on the social-personal aspects of college, than did those rated low on the scale.

Parental attitudes: Parents of cerebral palsied children expressed concern with many aspects of rearing these children, and reported their major frustrations resulted from: (a) attempts to provide adequate social opportunities for the CP child; (b) requirements of the physical impairment itself; (c) a lack of personal knowledge about cerebral palsy, and, (d) the lack of facilities and information.

Factors of greatest benefit to a CP child's development were listed by parents as: child's personal traits, school, treatment as a "normal" child, family life, and religious influences. Some parents emphasized the importance of early therapeutic measures in the CP child's development.

Parents of the non-impaired comparison group had more positive expectations for their children than did the CPCS parents. In this respect, parents of cerebral palsied students may be remiss. They need to present more positive attitudes toward their child's future and set reasonable expectations for a useful and happy life.

APPENDIX A

List of Questionnaires and Survey Materials Used in This Series of Studies

1. Pre-Interview Questionnaire

   Completed in 1959-60 by 208 cerebral palsied college students (40 items). Included: demographic information, socio-economic, family, religion, nature and severity of disability, medical treatment, education, attitudes, part-time and summer employment, etc.

2. Interview Schedule

   Administered in 1959-60 to 98 cerebral palsied college students and former students completing the Pre-Interview Questionnaire and meeting sampling requirements. (360 items, multiple choice, Likert Type and open ended). Included requests for information regarding all phases of development, education, employment, adjustment, disability, college, etc.

3. Parental Opinion Questionnaire

   Completed in 1960-61 by 70 parents of cerebral palsied subjects (35 items). Included requests for information regarding: child's disability, expectations for their children, child rearing practices, problems of college choice and admission, and attitudes toward cerebral palsy and higher education.

4. Physician Questionnaire

   Completed in 1960-61 by physicians named by cerebral palsied students (4 items). Included: syndrome, location of involvement, severity, associated defects and an area for comments.

5. Faculty Member's Questionnaire

   Completed by instructors of CPCS in 1960-61, and included: attitudes toward CP students, difficulties encountered, change in teaching methods, etc.

6. Student Questionnaire

   Administered in 1960-61 to 78 non-impaired college students (109 items). Included requests for information similar to that in the CPCS Pre-Interview Questionnaire and the Interview Schedule.

7. Pre-Follow-Up IBM Questionnaire Card

   Submitted to 208 CPCS, 1966, requesting information including: demographic, education and work history; and asking if they would be willing to participate in the Follow-Up study of employment. (Selected results can be found in Appendix D).

8. Follow-Up Questionnaire, Cerebral Palsied College Students

Completed in 1966 by 117 students. Included requests for information which parallelled many questions in the Pre-Interview Questionnaire and the Interview Schedule. Emphasis on employment. (39 items).

9. Follow-Up Questionnaire 1966, Non-Impaired College Students

Completed by 46 students in 1966. Followed the same pattern as questionnaire (8) above, but omitted references to cerebral palsy.

APPENDIX B

COLLEGE STUDENTS WHO HAVE CEREBRAL PALSY
FOLLOW-UP QUESTIONNAIRE 1966

1. Identification

   a. Name
   b. Phone
   c. Address
   d. Zip Code
   e. Birthdate
   f. Sex: Male Female
   g. Single Married Other
   h. Number of children

2. How would you classify your cerebral palsy?

   Mild Moderate Severe
   a. What is your main functional disability?
      0-None
      1-Muscle tightness
      2-Imbalance
      3-Incoordination
      4-Spasticity
      5-Other (specify)
   b. Compared to when you were in college, what is the degree of your present difficulty?
      More About the same Less
   c. Compared to when you were in college, indicate the degree of difficulty you now have in the following activities: (All answered with More, About the same, or Less).
      Walking Speaking Eating
      Reading Hearing Other (specify)

3. What is your religion?

   Roman Catholic Protestant Jewish Other (specify)
   a. How often do you attend your place of worship?
      0-Does not apply
      1-Never
      2-Seldom
      3-Occasionally
      4-Every other week
      5-Every week
   b. Are you a member of a church group?
      Yes No
   c. Compared to when you were in college, would you say you attend your place of worship now:
      More often About the same Less often Why?

4. Taking care of personal daily needs is sometimes a problem for those with cerebral palsy. How would you rate your present independence in these matters?

   1-Completely independent
   2-Mostly independent
   3-About half and half
   4-Mostly dependent
   5-Completely dependent

NOTE: This same questionnaire, omitting reference to cerebral palsy, was sent to non-impaired subjects. Sufficient space was allowed on the questionnaire form to permit easy and extended responses where this was appropriate.

5. What are your present sources of income or support? (Indicate percentage received from each source).

   Wages
   Welfare assistance
   Other (specify)
   Parent's earnings or income
   Investments, stocks, rents, royalties, etc.
   Insurance Income (specify)
   Spouse's earnings or income

6. Since leaving college, have you used any of the following agencies for assistance?

   0-No
   1-State Division of Vocational Rehabilitation (DVR)
   2-State Employment Service
   3-State Department of Welfare
   4-United Cerebral Palsy Association
   5-Other (specify)

   a. For what reasons did you use the agency checked above?

7. Do you think you could have such a bad personal problem that you might want to go someplace for help, or do you think you could always handle things like that yourself?

   I would never have such a problem.
   I would go someplace for help.
   I would handle the problem by myself.

8. How much would you estimate your (and, if married, your spouse's) estate to be? (Include value of home, other property owned, cash value of insurance policies, stocks, bonds, business owned, other valuables, etc.).

   a. What was your total family income for 1965?

9. Please list the organizations (i.e., Lions Club, professional societies, etc.) to which you belong, and indicate in the space provided beside each organization whether you have held or now hold an office in that organization.

10. Did you vote in the last national election?

11. If you are married, answer this question. If single, omit this question and begin again with question number 12.

    a. In what year were you married?
    b. Were you married before, during, or after college?
    c. Did you meet your spouse before, during, or after college?
    d. Is your spouse physically handicapped?
    e. If yes, what kind of a physical handicap does your spouse have?
    f. How many children do you have?
    g. Are any of your children handicapped?
    h. If yes, in what way are they handicapped?
    i. Do you plan to send your children to college?
       Why?

11. If you are married, answer this question. If single, omit this question and begin again with question number 12.

    j. Taking all things together, how would you describe your marriage?
    Very satisfying
    Fairly satisfying
    About average
    Fairly dissatisfying
    Very dissatisfying

12. If you are single, please answer the following questions.

    a. Do you date regularly?
    Regularly
    Often
    Occasionally
    Seldom
    Never
    b. Do you plan to marry?
    c. What do you feel is the greatest barrier you have to marriage?

13. Undergraduate college(s) attended. (Including name, dates attended, and major).

    a. Did you graduate?
    b. If yes, what year? (If no, go to question number 15).
    c. What degree did you receive?
    d. If you received a certificate of any kind, please indicate:
    e. What was your cumulative undergraduate grade point average?
    f. Did your education to this point prepare you for employment in your chosen field?
    g. If yes, for what field of employment were you prepared? (i.e., teaching, business, etc.).
    h. If no, what was lacking?

14. Graduate college(s) attended. (Including name, dates attended, and major).

    a. Masters:
    MA MS M.Ed Other (specify)
    b. Major
    c. Doctorate:
    Ph.D D.Ed Other (specify)
    d. Major
    e. Did your education to this point prepare you for employment in the field you wished to enter?
    f. If yes, for what field of employment were you prepared?
    g. If no, what was lacking?

15. In what way could the college(s) you attended improve programs to better prepare severely handicapped students for suitable employment?

16. Some people feel that college offers many possibilities. Now that you have left college, how do you see its usefulness?

People need college to get the job they want.
A college education helps a person get any job.
College does not make any particular difference in getting a job.

17. What three things or activities in your life give you the most satisfaction? (Indicate by using numbers 1, 2, and 3).

Career or occupation
Family relationships
Leisure time or recreational activities
Participation as a citizen in the affairs of your community
Participation in activities directed toward national or international betterment
Religious beliefs and activities

18. Please indicate your point of view regarding the following statements by circling:

SA - If you strongly agree
A - If you agree
I - If you are indifferent - neither agree nor disagree
D - If you disagree
SD - If you strongly disagree

a. College does not really equip you for life outside the campus.
b. Most of what I learned in college is very worthwhile.
c. A college education does more to break down values than to build up ideals.
d. Charges of college production-line teaching methods are justified.
e. My own university (or college) did a very good job, in general, in fulfilling the educational goals I consider important.
f. I would say that in general my professors in college thought of me as being like any other student in their classes.
g. My college experience was excellent preparation for my working life.
h. According to my experience, the attitude of the faculty at my college was discouraging for students with physical handicaps.
i. It seems to me that the faculty were unknowingly over-helpful.
j. As I see it, a cerebral palsied college student, at least in my college, doesn't have any more difficulty in making friends than anyone else.
k. I am well satisfied with the kind of college education I have obtained.
l. Persons with cerebral palsy should not marry other persons with cerebral palsy for fear that their children will be cerebral palsied.
m. Persons with cerebral palsy have a difficult time getting married.

18. Please indicate your point of view regarding the following statements by circling:

SA - If you strongly agree
A - If you agree
I - If you are indifferent - neither agree nor disagree
D - If you disagree
SD - If you strongly disagree

n. According to my experience, the counseling one receives in college really helps one meet the problems of life.
o. According to my experience, the counseling one receives in college really helps one meet the demands of employment.
p. I believe that aspects of college, other than academic, such as social or personal, are just as important as the academic side of vocational preparation.
q. Some people say that a person who has cerebral palsy has an easier time making friends than the typical non-disabled person.
r. My present job is like the work I hoped to do when I finished college.
s. My cerebral palsy negatively influences the attitudes of others toward me.
t. My cerebral palsy negatively influences the attitudes of employers toward me.
u. My cerebral palsy negatively influences the attitudes of my coworkers toward me.

19. Please check the one of the following that indicates your present status:

Employed for wages
In training
Employed part-time
Unemployed
In graduate school
Other (specify)
Employed and paid in other than wages (i.e., room and board, etc.)
a. Please explain the situation you checked above:

20. If you have not worked since college, please explain why, then go to question number 25.

21. If you have periods of unemployment, not including graduate school attendance, since you completed your undergraduate education, please answer the following:

a. How long were you unemployed? (Months and years).
b. What did you do during this period?
c. Why were you unemployed during this period?

22. The following questions deal with your present job. If you are in graduate school, answer in reference to your job just before entering graduate school.

a. Present job title

22. The following questions deal with your present job. If you are in graduate school, answer in reference to your job just before entering graduate school.

    b. Present job duties
    c. Employer
    d. Date began job (month and year)
    e. Date job terminated (month and year)
    f. Hours worked per week
    g. Salary received per month
    h. Indicate by checking ONE of the following the degree to which you believe your present job duties are related to your college education. (This includes graduate as well as undergraduate education).
       Almost totally related
       More than half related
       About half related, half unrelated
       Less than half related
       Almost totally unrelated
    i. Approximately how well satisfied are you with your present job?
       Completely satisfied
       About half and half
       Completely dissatisfied
       More satisfied than dissatisfied
       More dissatisfied than satisfied
    j. Do you perform and duties differently in your job from someone who is not cerebrally palsied? If yes, please explain.
    k. In the performance of the duties of your present job, what modifications had to be made for you to do the job?
       None
       Minor changes were made (specify)
       Does not apply, not employed
       Major changes were made (specify)
    l. How did you get your present job?
       Does not apply, not employed
       On my own, through my own efforts
       Through a friend or an acquaintance
       Through an agency - employment service, college placement service
       Through a family member
       Other (specify)
       Through a friend or an acquaintance
    m. Mark the ONE of the following which best tells how you feel about changing your present job.
       1 - I would quit the job at once if I could get anything else to do.
       2 - I would take almost any other job in which I could earn as much as I am earning now.
       3 - I would like to change both my job and my occupation.
       4 - I would like to change my present job for another job in the same line of work.
       5 - I am not eager to change my job, but would do so if I could get a better job.
       6 - I cannot think of any jobs for which I would change mine.
       7 - I would not change my job for any other.

n. Mark the ONE of the following to show HOW MUCH OF THE TIME you feel satisfied with your present job.
   7 - All of the time
   6 - Most of the time
   5 - A good deal of the time
   4 - About half of the time
   3 - Occasionally
   2 - Seldom
   1 - Never

23. The following questions deal with the job you held just prior to your present job.

   a. Job title
   b. Job duties
   c. Employer
   d. Date began job (month and year)
   e. Date terminated job (month and year)
   f. Hours worked per week
   g. Salary received per month
   h. Reason for leaving
   i. Indicate by checking ONE of the following the degree to which you believe your above job duties were related to your college education.
      Almost totally related
      More than half related
      About half related, half unrelated
      Less than half related
      Almost totally unrelated

24. The following questions deal with the job you held just prior to the job you listed above. (If none, write NONE.)

   a. Job title
   b. Job duties
   c. Employer
   d. Date began job (month and year)
   e. Date terminated job (month and year)
   f. Hours worked per week
   g. Salary received per month
   h. Reason for leaving
   i. Indicate by checking ONE of the following the degree to which you believe your above job duties were related to your college education.
      Almost totally related
      More than half related
      About half related, half unrelated
      Less than half related
      Almost totally unrelated

25. To what extent did being cerebral palsied make it difficult for you to get a job?

   1 - Considerably more difficult than for other people
   2 - More difficult than for other people
   3 - About the same amount of difficulty as for other people
   4 - Less difficult than for other people
   5 - Considerably less difficult than for other people.

25. To what extent did being cerebral palsied make it difficult for you to get a job?

    a. What do you feel accounts for the difficulty or lack of it in getting a job which you listed above?

26. To what extent did being cerebral palsied make it difficult for you to keep a job once you got one?

    1 - Considerably more difficult than for other people
    2 - More difficult than for other people
    3 - About the same amount of difficulty as for other people
    4 - Less difficult than for other people
    5 - Considerably less difficult than for other people
    a. What do you feel accounts for the difficulty or lack of it in keeping a job which you listed above?

27. Have you ever had any problems with your work (times when you could not work or were not getting along on the job, or were not sure that your job was the kind of work you wanted to do)?

    a. If yes, what kinds of problems?
    b. What did you do about it?

28. Have you ever gone to anyone for advice and help about work?

    a. If yes, where did you go?
    b. Of what help were they?

29. What does it take to do a really good job at the kind of work you do?

30. How much ability do you think it takes to do a really good job at the kind of work you do?

31. How good would you say you are at doing this kind of work?

    1 - Very good
    2 - Better than average
    3 - Average
    4 - Not very good

32. What would you say is the most important qualification of the ideal job? (Rank the following statements: 1 for most important, 2 for second most important, etc.)

    Provide me an opportunity to use my special abilities or aptitudes
    Permit me to be creative and original
    Enable me to look forward to a stable, secure future
    Provide me with the chance to earn a good deal of money
    Give me an opportunity to be helpful to others
    Other (specify)

33. Now that you've been out of college for a few years, do you believe that aspects of college, other than academic (such as social or personal), are just as important as the academic side of vocational preparation?

Strongly agree
Agree
Indifferent
Disagree
Strongly disagree

a. Which would you say was most important to you, as you look back on your college experiences?
    All seemed important to me, and still do
    Academic
    Academic leading to vocational preparation
    Social and personal life

34. We would like to know how you feel the following factors contributed, first, to your overall development and general preparation for life while you were in college, and second, to your satisfaction with your college. In EACH case, check the THREE contributing MOST, and the THREE contributing LEAST.

Required (core) courses
Counseling or advisement in college
Athletics and sports
Elective courses
Attitude of the professors
Informal social activities
Roommates and friends
Organized extra-curricular activities
The general spirit of the college
Just being away from home

35. Thinking in terms of your whole life, how things are now, how they were ten years ago, how they were when you were quite young, etc., what do you think was the happiest period of your life?

The past
The present
While I was in college
While I was in high school
When I was quite young

a. Why was, or is, the above period the happiest?
b. What are some of the things you're happy about these days?
c. What are some of the things you aren't too happy about these days?
d. What was the unhappiest time of your life?
e. Why do you think of that (Item d) as an unhappy time?
f. Taking all things together, how would you say things are these days?
    Very happy   Pretty happy   Not too happy these days
g. Imagine a ladder with ten rungs. The top rung, number 10, represents the ideal life and the bottom rung, number 1, represents the worst possible life. On what rung do you think you are now?

36. Nearly everybody experiences problems of one sort or another - problems about health, money, social life, etc. Sometimes, when people have these kinds of problems, they go someplace for help. Sometimes they go to a doctor, a minister, a psychiatrist, a marriage counselor, social agency or a clinic. Since you finished college, have you ever gone any place like that for help?

    a. If yes, where did you go?
    b. Why did you go? What problem did you have?
    c. What did they do? How did they try to help you?
    d. How did it turn out? Did they help you in any way?

37. Can you think of anything that's happened to you, any problem you've had, when going to someone for help might have been beneficial in any way?

    a. If yes, what kind of a problem was it?
    b. What did you do about it?
    c. How do you think someone might have helped with it?
    d. If you didn't go for help, why do you suppose you didn't?

38. Do you wish to be paid $10 for completing this questionnaire?

39. Please use the remaining space to indicate anything else you feel to be pertinent, anything which might be beneficial to the person who has cerebral palsy and who plans to attend college.

APPENDIX C

Selected Initial Survey Findings for Cerebral Palsied and Non-Impaired College Students of the CPCS Study (Percentages)

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
A. Background Data						
1. Age of college students:						
Median	22.0	21.5	21.9	21.1	20.0	20.9
2. Marital status:*						
Single	92%	100%	95%	77%	93%	83%
Married	8	0	5	23	7	17
Children	4	9	2	12	0	7
3. Age began school:**						
Six years and under	64	60	63	90	93	91
Seven - nine years	36	37	36	10	7	9
Ten years and older	0	3	1	0	0	0
4. Approximate high school enrollment:						
Less than 10	2	0	1	0	0	0
10 - 99	10	10	10	6	3	5
100 - 249	6	17	10	15	7	12
250 - 499	26	20	24	15	30	21
500 or more	56	53	55	64	60	62
5. Rank in graduating class:						
Upper third	48	70	56	73	83	77
Middle third	34	20	29	19	7	14
Lower third	6	7	6	6	0	4
No response	12	3	9	2	10	5
6. Religious preference:						
Protestant	38	77	53	65	70	67
Roman Catholic	36	10	26	23	27	24
Jewish	8	10	9	2	3	3
Other & none	18	3	12	10	0	6

* Berko (1956) found 93% were single and 25/591 had children. Census Bureau (1960) reports 30% of the male college students married, 17% of females.

** Berko (1956) found that 92% of the CPs studies had begun school by age ten.

	Cerebral Palsied			Non-Impaired		
	Male (50	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
B. Family Characteristics						
7. Socio-economic status Students estimate of income:						
$10,000 or more	18	20	19	23	27	24
$6,000 - $9,999	42	33	39	42	37	40
$4,000 - $5,999	26	27	26	25	30	28
$3,000 - $3,999	8	10	9	4	3	4
Under $3,000	6	10	8	6	0	4
8. Father's education:						
Eighth grade or less	26	27	26	25	17	22
1 - 3 years high school	22	10	18	15	7	12
High school graduate	12	23	16	25	27	26
1 - 3 years college	14	14	14	7	9	8
College plus	26	26	26	28	40	32
9. Mother's education:						
Eighth grade or less	18	13	16	8	3	6
1 - 3 years high school	12	10	11	15	7	12
High school graduate	30	30	30	40	37	39
1 - 3 years college	16	27	20	21	37	27
College plus	20	20	20	14	13	14
10. What was your father's occupation:						
Deceased	4	3	4			
Managerial-Professional	54	60	56			
Farmer	10	13	11			
Clerical, sales, service	6	3	5			
Skilled	18	13	16			
Semi-skilled	4	3	4			
Unskilled	4	3	4			
11. Hollingshead's Index of Social Position:						
Class I	10	13	11	13	27	18
Class II	20	30	24	21	30	24
Class III	38	30	35	42	27	36
Class IV	18	23	20	23	13	19
Class V	14	3	10	2	3	3
12. How many brothers and sisters do you have?*						
0	24	23	24	9	20	14

* Berko (1956) 50% of CPs were first born

	Cerebral Palsied			Non-Impaired		
	Male	F'ml	Total	Male	F'ml	Total
	(50)	(30)	(80)	(48)	(30)	(78)
12. How many brothers and sisters do you have?						
1	34	27	31	27	40	32
2	30	23	28	18	7	14
3 - 5	10	26	16	31	27	30
6 and over	2	0	1	4	0	2
Median	1.5	1.0	1.5	2.2	1.5	2.5
13. What was your feeling about the size of your family?						
Probably too many	56	60	56			
Just right	32	20	28			
Probably too few	6	20	11			
Certainly too few	4	0	3			
Certainly too many	4	0	3			
14. How would you describe the happiness of your family as you were growing up?						
Very happy	24	37	29	38	50	42
Happier than average	30	13	23	31	20	27
About average	34	30	33	23	30	26
Not too happy	10	20	14	8	0	5
Question refused	2	0	1	0	0	0
15. What do you think your parents would like you to do?						
Specific job mentioned	13	37	22	33	37	35
What I want with qualification	20	19	20	25	33	28
Anything I want, make myself happy	57	44	52	35	30	33
Don't know or blank	10	9	6	6	0	4
16. What was your parent's attitude toward higher education?						
Really in favor	28	10	21			
In favor	30	33	31			
Neutral or opposed	12	0	8			
Mother & father differed	2	17	8			
No response	28	40	33			
17. Parental expectations:						
a) Expect child to care for self						
Yes	65	67	66			
No	35	33	34			

	Cerebral Palsied			Non-Impaired		
	Male	F'ml	Total	Male	F'ml	Total
	(50)	(30)	(80)	(48)	(30)	(78)
17. Parental expectations:						
b) Expect child to be profitably employed						
Yes	75	78	76			
No	21	22	21			
Don't know	7	0	3			
c) Expect child to marry & establish a home						
Yes	63	48	57			
No	33	45	37			
Don't know	4	7	6			
18. Parental association with CP parent groups. During time child was in:						
Pre-school	12	17	15			
Grades 1 - 8	30	34	31			
Grades 9 - 12	28	23	26			
College	20	13	17			
C. Parental Views						
19. The most frustrating and difficult problem in raising CP child:						
Social difficulties	10	30	18			
Aspects of physical handicap	16	7	13			
Parental lack of knowledge	12	10	11			
Not able to be normal	10	10	10			
Lack of facilities & information	12	0	8			
Personality trait difficulty	6	7	6			
No problems mentioned	4	10	6			
Public attitude	4	3	4			
Misc & no response	10	17	13			
No response to questionnaire	16	7	13			
20. What has been of greatest benefit to your child in his development to adulthood?						
Internal characteristics	30	13	24			
School participation	12	30	19			
Being treated as normal	10	13	11			
Family life	10	3	8			
Social practices & pastimes	6	10	8			
Misc	4	10	6			

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
20. What has been of greatest benefit to your child in his development to adulthood?						
Medical assistance	8	0	5			
Religion	4	13	8			
No response to questionnaire	16	7	13			
D. Disability						
21. Severity of cerebral palsy rated by MD:						
Severe	31	38	34			
Moderate	42	31	38			
Mild	27	31	28			
22. Parental ratings of severity of child's cerebral palsy:						
Severe	7	11	9			
Moderate	52	52	52			
Mild	41	37	39			
23. Students self perception of severity:						
Severe	10	30	17			
Moderate	46	40	44			
Mild	44	30	39			
24. Perceived versus rated severity of disability:						
No difference	44	33	40			
Less severe	34	23	30			
More severe	12	30	18			
No data	10	14	12			
25. Physician's diagnosis of the CP student's disability:						
Spastic	64	50	59			
Athetoid	8	27	15			
Ataxic	8	0	5			
Mixed	20	23	21			
26. Physician's indication of location of primary involvement of disability:						
Monoplegia	12	13	13			
Diplegia	18	0	11			
Paraplegia	8	7	8			
Triplegia	2	7	4			

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'mle (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
26. Physician's indication of location of primary involvement of disability:						
Quadraplegia	50	50	50			
Hemiplegia	10	23	14			
27. Related or associated disorders as checked by physician:*						
Visual difficulty present	16	17	16			
Hearing loss present	18	17	18			
Seizures present	16	20	18			
Speech problems present	66	63	65			
28. Student's rating of main functional difficulty:						
Incoordination	52	23	41			
Muscle tightness	20	37	26			
Spacticity	16	40	25			
Imbalance and other	12	0	8			
E. Rehabilitation Services						
29. Physical therapy:						
No physical therapy received at any time	18	17	18			
Length of time therapy received:						
Less than one year	0	3	1			
1 - 5 years	22	13	19			
6 - 10 years	28	10	21			
11 - 15 years	22	17	20			
16 years and over	10	37	20			
30. Occupational Therapy:						
No OT received at any time	52	47	50			
Length of time OT received:						
Less than one year	0	3	1			
1 - 5 years	22	17	20			
6 - 10 years	16	7	13			
11 - 15 years	6	10	8			
More than 16 years	4	10	6			
Periodically	0	7	3			

* Does not sum to 100%

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
31. Speech and Hearing Therapy:						
No speech & hearing therapy received	40	37	39			
Length of time ST received:						
Less than one year	2	7	4			
1 - 5 years	20	17	19			
6 - 10 years	18	17	18			
11 - 15 years	4	3	4			
16 years and over	12	10	11			
Periodically	4	10	6			
32. Educational Therapy:						
No educational therapy received	94	90	93			
Length of time educational therapy received:						
Less than one year	0	3	1			
1 - 5 years	2	3	3			
6 - 15 years	0	0	0			
16 years and over	2	3	3			
Periodically	2	0	1			
33. Psychotherapy:						
No psychotherapy received	82	73	79			
Length of time psychotherapy received:						
Less than one year	2	3	3			
1 - 5 years	14	17	15			
6 - 10 years	2	3	3			
Periodically	0	3	1			
34. Vocational Counseling:						
No vocational counseling received	60	50	56			
Length of time vocational counseling received:						
Less than one year	2	7	4			
1 - 5 years	22	23	23			
6 - 10 years	10	10	10			
11 years and over	2	0	1			
Periodically	4	10	6			
F. High School						
35. How well satisfied were you with your high school counseling?						
Very satisfactory	24	17	21	13	3	9
Mostly satisfactory	28	13	23	27	23	26
Neither satisfied nor dissatisfied	8	7	8	13	13	13

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
35. How well satisfied were you with your high school counseling?						
Mostly unsatisfactory	8	17	11	8	10	9
Very unsatisfactory	4	7	5	8	7	8
Does not apply and no response	28	40	32	31	43	36
36. During high school what barriers and problems seemed most frustrating to you?						
Dating problems	22	16	20	8	10	9
Personal problems	18	20	19	21	30	24
Handicap limits physical capacity	22	10	18	-	-	-
Social acceptance	6	20	11	21	17	19
Difficulty with school/ courses	10	13	11	21	10	17
Handicap limits academic activity	8	7	7	-	-	-
Realized implications of handicap	6	7	6	-	-	-
Not enough time to do everything	-	-	-	6	3	5
Plans for the future	-	-	-	8	0	5
No problems	-	-	-	8	13	10
Miscellaneous	8	7	7	6	16	10
G. Counseling Received						
37. From whom was counseling received?						
Counselor	54	47	51	42	33	39
Principal	8	3	6	6	3	5
Teacher	6	3	5	17	17	17
Other	4	10	7	4	4	4
Did not receive counseling	28	37	31	31	43	36
38. What was the general purpose of the counseling?						
Educational	34	17	28	27	33	30
Vocational & Educational	18	13	16	4	3	4
Personal	2	13	6	13	3	9
Personal, Educ, Vocational	6	7	6	0	0	0
Other	6	3	5	6	8	6
None received	30	37	33	31	43	36
39. What seemed to be of most help?						
Human interest, had faith in me	18	20	19			9

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
39. What seemed to be of most help?						
Gave me information, specific	10	20	14			15
Helped me plan my program	16	0	10			15
Nothing or don't know	10	10	10			13
Helped in college preparation	10	7	9			17
Does not apply & miscellaneous	36	43	39			41
40. What seemed to be of least help?						
Nothing of least help	32	17	26			15
Don't know and miscellaneous	16	7	13			5
Didn't like the counselor or what he was saying	14	7	11			12
Counselor either didn't know what to do or didn't do anything	4	20	10			27
Not enough counseling	6	10	8			3
Does not apply - no counseling	28	40	33			38
H. College						
41. Things that worked out especially in first days of college:						
Social acceptance, adjustment	20	27	23	67	63	65
Physical arrangements or school related reasons	14	10	13	17	27	21
Nothing, don't know or remember	12	10	11	13	10	12
Misc., no answer, does not apply	54	53	53	4	0	3
42. Difficulties during first days of college and why were they disturbing?						
Personal & interpersonal	22	37	28	23	30	26
Physical limitations	6	20	11	-	-	-
Communication difficulties	10	3	8	-	-	-
Lack of study skills, background	14	7	11	-	-	-
Work too hard, too much of it	2	7	4	2	0	1
Setting differences	10	3	8	-	-	-
Registration & other difficulties	22	23	21	29	17	24
Misc and does not apply	14	0	9	46	53	49

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
43. In what ways did you make good as a student?						
General academic	42	40	41	46	50	47
Academics where grades or exams are mentioned	32	40	35	35	34	35
Development of personal or social characteristics	26	17	22	36	27	33
Did well in specific courses and relation with instructors	20	23	22	10	13	10
Did what I was able	6	13	9	6	7	6
Misc and no response	74	67	71	66	66	66
44. What was there about your college you did not like or that was not so good?*						
Courses and instructional opportunities	38	47	41	23	37	35
Nothing	40	37	39	0	3	1
Administrative regulations	24	27	25	23	20	22
Physical facilities	28	10	21	15	20	17
Faculty and staff deficiencies	18	17	17	10	28	17
School atmosphere	22	7	16	21	23	22
Extra-curricular & social opportunities	8	20	13	25	23	24
Social acceptance	12	7	10	6	3	5
Attitudes toward handicapped fellow students, faculty	6	7	6	0	0	0
Miscellaneous	4	23	11	17	23	19
Only one response	-	-	-	50	20	39
45. Is there anything you would change, if you could, in the program or organization of your college that better help you get what you're after in a college education? If so, what would it be?						
Academic courses	26	40	31	29	37	32
Nothing	32	10	24	21	20	21
Need for counseling	10	23	15	8	7	8
School requirements	16	13	15	21	13	18
Better physical facilities	0	3	1	2	3	3
Other	8	7	8	6	10	8
Teachers	4	3	4	10	9	6
More student participation	2	0	1	2	10	5

* Does not sum to 100% as two responses requested.

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
46. Are most of the students at your college mostly concerned with getting an education, or having a good time, or what?						
Getting an education	50	33	44	69	77	72
Having a good time	24	47	33	13	10	12
Both	12	10	11	10	3	8
Prepare for a job	6	3	5	0	0	0
Other, inc: marriage, degree, etc.	8	7	7	8	10	8
47. How has the time you've spent in college changed you?*						
Broadened view of life	48	49	45	48	53	50
Knowledge, learning, employability	28	13	23	23	30	27
Social self confidence	18	23	20	19	7	14
Matured me	14	27	19	23	13	20
Increased self understanding	14	7	11	4	7	5
Understanding and toleration of others	6	10	8	6	15	9
Negative impact	8	7	8	2	0	1
Increased my independence	46	53	49	19	40	27
None & misc	18	20	19	56	37	47
48. What kinds of misunderstandings by other students have you had to overlook the most?						
Rejected or ignored me	22	30	25			
None (none because I'm not too disabled)	26	17	23			
They don't know what to expect	16	23	19			
Too much sympathy, pity	12	10	11			
Expected too much of my physically	12	7	10			
Think I can't do things I can do	8	3	6			
Miscellaneous	4	10	6			
49. Do you believe your cerebral palsy has influenced the attitudes of other students toward you?						
Yes	68	73	70			
How?						
It doesn't	32	27	30			
Look at you as different	14	30	20			
More helpful and tolerant	12	10	11			
Miscellaneous	6	20	11			

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
49. Do you believe your cerebral palsy has influenced the attitudes of other students toward you?						
Oversympathetic, special treatment	14	3	10			
Avoided and rejected	8	10	9			
At first, but not after they get to know you	14	0	9			
50. In what way was the vocational rehabilitation counselor most helpful as regards your college attendance?						
Not very helpful or not helpful	18	23	20			
Financial aid	18	10	15			
Testing or arrangement for it	10	7	9			
Vocational guidance	6	3	5			
Miscellaneous	4	3	4			
Encouraged me (general, moral support)	2	0	1			
Received no counseling	42	53	46			
I. Adjustment						
51. Do you associate with the opposite sex on dates or mostly in groups?						
Dates	22	13	19			
Groups	50	70	58			
Both	14	13	14			
Did not answer	14	3	10			
52. When did you start dating?						
Before high school	6	10	8	23	33	27
High school freshman	8	3	6	25	20	23
High school sophomore or junior	28	20	25	35	33	35
High school senior	14	13	14	8	13	10
College freshman, sophomore	26	17	23	6	0	4
21 or over	2	17	8	-	-	-
Haven't dated	16	20	18	2	0	1
53. To what degree do you participate in extra-curricular activities in comparison with your freshman year?						
More	60	63	61	50	37	45
Same	14	17	15	19	23	21
Less	22	20	21	31	40	35

	Cerebral Palsied			Non-Impaired		
	Male	F'ml	Total	Male	F'ml	Total
	(50)	(30)	(80)	(48)	(30)	(78)
J. Attitudes of College Teachers						
54. Having a handicapped student in my classes does not require fundamental changes in teaching methods:						
Agree	94	94	94			
55. In his course work with me I made arrangements to help the student deal with his disability problems:						
Agree	74	77	74			
56. A college that admits students like this one should provide special student personnel services:						
Agree	88	83	85			
57. Even if a CP student fails in college he is better off for having attended:						
Agree	76	77	76			
58. Following are factors necessary in evaluating the handicapped for college (in order of importance):						
Emotional stability	12	27	18			
Drive, motivation, persistance	14	17	15			
Attitude toward physical disability	16	13	15			
Interpersonal skills & attitudes	10	7	9			
Physical capacity & demands	10	7	9			
Speaking & writing ability	12	0	8			
Vocational realism	6	7	6			
Misc., no problems, no response	20	20	20			
59. I think the colleges should do the following for the handicapped:						
Provide counseling & guidance services	24	20	23			
Acceptance by faculty & students	16	20	18			

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
59. I think the colleges should do the following for the handicapped:						
Physical accomodations	12	3	9			
Job placement & planning	4	13	8			
Smaller classes, tutors, 2 year program	4	13	8			
Special services and help faculty and students understand disability	12	6	10			
No response, not classifiable, misc.	28	14	20			

K. Childhood

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
60. What do you recall as being of most benefit during childhood?						
Relations with family	36	33	35	29	43	35
School	12	20	15	2	3	3
Treatment as normal/acceptance	16	17	16	8	7	8
Work or special training	6	7	6	15	3	10
Learning various things	6	10	8	13	17	14
Physical changes or moves	8	3	6	0	7	3
Parents let me make my own decisions	-	-	-	19	7	14
Don't know/nothing	10	3	8	2	3	3
Miscellaneous	6	7	6	13	10	12
61. What do you recall as being of least benefit during childhood?						
Home situation	16	27	20	27	23	27
Over protection	14	17	15	8	20	13
Lack of social life	6	17	10	4	7	5
School & personal characteristics	10	10	10	18	7	14
Nothing, don't know, misc.	54	30	46	41	43	43
62. What was your favorite childhood pastime?						
Sports involving social participation	30	23	28	54	40	49
Passive activities & hobbies	36	10	26	21	3	14
Activities without others	22	23	23	2	13	6
Reading	10	40	21	19	37	26
Miscellaneous	2	3	3	4	7	5

	Cerebral Palsied			Non-Impaired		
	Male (50)	F'ml (30)	Total (80)	Male (48)	F'ml (30)	Total (78)
63. Would you say you had a good time in elementary school?						
Yes	80	87	83	85	87	86
64. Would you say you learned a lot?						
Yes	88	90	89	58	70	63
65. I attended the same social events as most of my classmates while in high school:						
True most of the time	52	57	54	67	67	67
True half the time	14	20	16	21	30	24
Hardly ever true	34	23	30	13	3	9
66. What seemed to hinder the student most in achieving goals?						
Intra-personal problems	14	27	19			
Physical capabilities	12	13	13			
Writing	10	13	11			
Speech problems & difficulty	6	17	10			
Speaking & writing, communication	12	3	9			
Interpersonal skills & acceptance	14	0	9			
Intellectual limitations	8	3	6			
Misc., no problems, no response	24	24	24			

APPENDIX D

Percentages of Responses to the Preliminary Questionnaire of the Follow-Up Study of Cerebral Palsied College Students

	Male (N=67) %	Female (N=42) %	Total (N=109) %
1. Sex	61.5	38.5	100.0
2. Marital Status:			
Single	73.1	76.2	74.3
Married	26.9	23.8	25.7
3. Number of children:			
None	83.5	90.5	86.2
One	7.5	7.1	7.3
Two	6.0	2.4	4.6
Three or more	3.0	0.0	1.8
4. Undergraduate G.P.A.:			
No or inadequate information	13.4	11.9	12.8
Less than 1.5	1.5	2.4	1.8
1.5 to 2.49	19.4	21.4	20.2
2.5 to 3.49	55.2	59.5	56.9
3.5 and up	10.4	4.8	8.3
5. Undergraduate degree:			
None	11.9	9.5	11.0
BA/BS	88.1	90.5	89.0
6. Date degree received:			
None	11.9	9.5	11.0
1960	52.3	50.0	51.4
1961	7.5	7.1	7.3
1962	10.4	4.8	8.3
1963	13.4	11.9	12.8
1964	3.0	16.7	8.3
1965	1.5	0.0	0.9
7. Graduate school attended:			
No	41.8	47.6	44.0
Yes	58.2	52.4	56.0
8. Jobs since graduation:			
None	10.4	9.5	10.1
One	29.9	28.7	29.4
Two	28.4	21.4	25.7
Three	16.4	21.4	18.3
Four or more	14.9	19.0	16.5

	Male (N=67) %	Female (N=42) %	Total (N=109) %
9. Present job classification:			
None, not employed	10.4	9.5	10.1
Professional or managerial	55.2	59.5	56.9
Clerical and sales	10.4	16.7	12.8
Student	9.0	7.1	8.3
Service occupations	7.5	0.0	4.6
Skilled workers	3.0	4.8	3.7
Unskilled workers	3.0	0.0	1.8
Family business workers	1.5	2.4	1.8
10. Salary per month:			
None	17.9	14.3	16.5
Minimal and found	1.5	7.1	3.7
Up to $100	4.5	7.1	5.5
$100 - $199	6.0	7.1	6.4
$200 - $299	7.5	14.3	10.1
$300 - $399	10.4	11.9	11.0
$400 - $499	13.4	21.4	16.5
$500 - $599	10.4	9.5	10.1
$600 and up	26.9	7.1	19.3
No information	1.5	0.0	0.9
11. Length of time on present job:			
Less than one year	19.4	26.2	22.0
One to two years	7.5	11.9	9.2
Two to three years	11.9	11.9	11.9
More than three years	40.3	35.7	38.5
Part-time work	4.5	0.0	2.8
Unemployed	16.4	14.3	15.6
12. Expressed job satisfaction:			
Very satisfied	32.8	42.8	36.7
Satisfied	38.8	26.2	33.9
Indifferent	6.0	7.1	6.4
Dissatisfied	6.0	7.1	6.4
Very dissatisfied	1.5	4.8	2.8
Does not apply	14.9	11.9	15.8
13. Would you like to be paid to participate?			
No	65.7	59.5	63.3
Yes	34.3	40.5	36.7
14 Those appending comments	44.8	52.4	47.7

APPENDIX E

Tabulation of Major Findings for CPCS Follow-Up Study

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28 %	Female (N=18) %	Total (N=46) %
I. Personal Information						
1. Sex	61.5	38.5	100.0	60.9	39.1	100.0
2. Undergraduate college location:						
East	22.6	29.7	25.5	22.9	23.3	23.1
Midwest	72.6	70.3	71.4	77.1	76.7	76.9
Far West	0.0	0.0	0.0	0.0	0.0	0.0
South	4.8	0.0	3.1	0.0	0.0	0.0
3. Present location:						
East	22.7	23.3	22.9	22.7	25.0	23.7
Midwest	63.6	62.8	63.3	63.6	68.8	65.8
Far West	10.6	11.6	11.0	13.6	6.2	10.5
South	3.0	2.3	2.7	0.0	0.0	0.0
4. Birthdate:						
No information	(26.1)	(20.0)	(24.0)	(45.8)	(40.0)	(43.6)*
Up to 1919	5.9	4.5	5.4	3.8	5.6	4.5
1920 - 1924	7.4	6.8	7.2	0.0	0.0	0.0
1925 - 1929	16.2	15.9	15.3	0.0	0.0	0.0
1930 - 1934	16.2	11.4	14.4	7.7	0.0	4.5
1935 - 1939	41.2	40.9	41.4	34.6	16.7	27.3
1940 - 1944	13.2	20.5	16.2	53.8	77.8	63.6
5. Marital status:						
Single	70.8	67.4	69.2	28.6	44.4	34.8
Married	29.2	28.3	29.1	71.4	50.0	63.0
Other	0.0	2.2	1.4	0.0	5.6	2.2
6. Number of children:						
None	87.0	90.9	88.0	77.1	90.0	82.1
One	4.3	7.3	5.5	8.3	10.0	9.0
Two	3.3	1.8	2.7	10.4	0.0	6.4
Three	5.5	0.0	3.5	4.2	0.0	2.6

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* Numbers in parentheses indicate the percentage of persons not responding to any particular item. The other figures show the proportion of respondents who used the category.

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
7. Subject's classification of degree of cerebral palsy:						
Mild	49.3	47.8	48.2			
Moderate	44.9	50.0	47.4			
Severe	5.8	2.2	4.4			
8. Degree of present difficulty compared to when in college:						
More	6.9	6.5	6.0			
About the same	72.2	76.1	74.4			
Less	20.8	17.4	19.7			
9. Present sources of income or support by percentage:						
Wages	63.0	40.0	54.1	82.1	66.7	76.1
Spouse's earnings or income	0.0	21.8	8.2	7.1	27.8	15.2
Investments, stocks, rents, royalties, etc.	3.3	5.5	4.1	0.0	0.0	0.0
Welfare assistance	1.1	3.6	2.1	0.0	0.0	0.0
Parent's earnings or income	6.5	9.1	7.5	3.6	0.0	2.2
Other (specified)	4.3	3.6	4.1	7.1	5.6	6.5
Does not apply	21.7	16.4	19.9	0.0	0.0	0.0
10. Use of agency assistance:						
None	55.4	50.9	54.1	91.7	86.7	89.7
DVR	30.4	36.4	32.2	4.2	3.3	3.8
State employment service	12.0	7.3	10.3	2.1	6.7	3.8
State department of welfare	0.0	0.0	0.0	0.0	0.0	0.0
United Cerebral Palsy Association	2.2	3.7	2.1	0.0	0.0	0.0
Other (specified)	0.0	7.4	1.4	0.0	3.3	2.6
11. Estimate of estate value of self and spouse:						
No information	20.4	40.0	34.2	43.8	43.3	43.6
Up to $2,499	8.7	14.5	11.0	6.3	6.7	6.4
$ 2,500 - $ 4,999	12.0	5.5	8.9	14.6	20.0	16.7
$ 5,000 - $ 7,499	14.1	9.1	12.3	2.1	0.0	1.3
$ 7,500 - $ 9,999	2.2	1.8	2.1	6.3	6.7	6.4
$10,000 - $19,999	6.5	7.3	6.8	10.4	13.3	11.5
$20,000 - $29,999	15.2	9.1	13.0	6.3	0.0	3.8
$30,000 - $39,999	3.3	1.8	2.7	6.3	3.3	5.1

	Cerebral Palsied			Non-Impaired		
	Male (N=72)	Female (N=45)	Total (N=117)	Male (N=28)	Female (N=18)	Total (N=46)
	%	%	%	%	%	%
11. Estimate of estate value of self and spouse (cont'd):						
$40,000 - $49,999	3.3	0.0	2.1	2.1	0.0	1.3
$50,000 and up	7.6	10.9	6.8	2.1	6.7	3.8
12. Total family income for 1965:						
Minimal to $999	7.6	5.3	6.8	0.0	0.0	0.0
$ 1,000 - $ 2,499	9.1	7.9	8.7	7.4	5.9	6.8
$ 2,500 - $ 4,999	21.2	26.3	23.3	22.2	35.3	27.3
$ 5,000 - $ 9,999	40.9	44.7	41.7	51.9	47.1	50.0
$10,000 - $14,999	12.1	10.5	11.7	14.8	5.9	11.4
$15,000 - $19,999	4.5	5.3	4.9	3.7	5.9	4.5
$20,000 - $29,999	4.8	0.0	2.9	0.0	0.0	0.0
13. Married before, during or after college:						
Not married	(77.2)	(74.5)	(76.0)	(58.3)	(66.7)	(61.5)
Before	4.8	0.0	2.9	10.0	0.0	6.7
During	19.0	14.3	17.1	40.0	50.0	43.3
After	76.2	85.7	80.0	50.0	50.0	50.0
14. As a single person, do you date regularly?						
Regularly	13.7	9.1	10.8	37.5	25.0	31.3
Often	3.9	15.2	8.4	12.5	12.5	12.5
Occasionally	27.5	3.0	18.1	50.0	25.0	37.5
Seldom	25.5	42.4	32.5	0.0	25.0	12.5
Never	29.4	30.3	30.1	0.0	12.5	6.3
15. Do you plan to marry?						
Those answering yes	86.8	81.0	84.5	57.1	77.8	65.2
16. What is your greatest barrier to marriage?						
No barriers listed	12.2	10.0	11.5	0.0	25.0	13.3
My handicap or my inability to care for personal needs	28.6	56.7	38.5	0.0	0.0	0.0
Future insecurity, financial included	26.5	0.0	16.7	28.6	0.0	13.3
Lack of opportunity	8.2	6.7	7.7	14.3	25.0	20.0
Finding person with similar interests ("the right person")	14.3	20.0	16.7	42.9	50.0	46.7
Other	10.2	6.6	7.9	14.3	0.0	6.7

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
II. Educational Information						
1. Number of undergraduate colleges attended:						
One	61.1	56.5	59.8	78.6	61.1	71.7
Two	25.0	26.1	24.8	21.4	16.7	19.6
Three	13.9	17.4	15.4	0.0	22.3	8.7
2. Total number of years in undergraduate school(s):						
Two	1.4	6.7	3.4	0.0	0.0	0.0
Three	8.3	2.2	6.0	0.0	5.6	2.2
Four	59.7	53.3	56.9	64.3	83.3	71.7
Five	22.2	22.2	22.2	35.7	11.1	26.1
Six	4.2	11.1	6.9	0.0	0.0	0.0
Seven	1.4	0.0	0.9	0.0	0.0	0.0
Eight	2.8	2.2	2.6	0.0	0.0	0.0
Nine	0.0	2.2	0.9	0.0	0.0	0.0
3. Investigator's coding of degree of vocational orientation of area of study:						
No	39.1	43.6	40.4	47.9	40.0	44.9
Yes	51.1	40.0	47.3	35.4	43.3	38.5
Partially	9.8	16.4	12.3	16.7	16.7	16.7
4. Undergraduate major:						
Engineering	1.3	0.0	0.9	7.1	0.0	4.3
Professional: DDS, law, MD, pharmacy	2.8	0.0	1.7	0.0	5.6	2.2
Business administration	18.2	2.2	12.2	21.4	0.0	13.0
Sciences: physics, chemistry, zoology, math	19.7	4.4	13.9	10.7	22.2	15.2
Social sciences: psychology, sociology, political science, therapies, counseling	23.8	33.3	27.8	14.3	11.1	13.0
Humanities: language, history, literature, English, liberal arts, fine arts, religion, philosophy	23.8	42.2	30.4	21.4	16.7	19.6
Education	4.1	15.6	8.7	21.4	38.9	28.3
Other, including agriculture	5.4	2.2	4.4	3.6	5.6	4.3
5. Those graduating	70.7	74.5	71.9	100.0	100.0	100.0

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
6. Did your education to this point prepare you for employment in your chosen field?						
No or no answer	59.7	60.0	59.8	67.9	55.6	63.0
Yes	38.9	35.6	37.6	28.6	44.4	34.8
Somewhat	1.4	4.4	2.6	3.5	0.0	2.2
7. If yes, for what field were you prepared?						
Business, industry	41.0	4.5	28.3	33.3	7.1	20.7
Teaching	17.9	68.2	36.7	46.7	71.4	58.6
Research	15.4	0.0	10.0	0.0	7.1	3.4
Counseling	0.0	18.2	6.7	0.0	7.1	3.4
Other	25.7	9.1	18.2	20.0	7.1	13.8
8. If you were not prepared for employment, what was lacking?						
No answer	75.0	61.8	69.9	72.9	83.3	76.9
Further training (including graduate)	21.7	30.9	25.3	27.1	16.7	23.1
Job opportunities	2.2	3.6	2.7	0.0	0.0	0.0
Other	1.1	3.6	2.1	0.0	0.0	0.0
9. Number of graduate colleges attended:						
One	75.0	79.2	76.1	90.9	71.4	86.2
Two	20.5	12.5	17.9	9.1	0.0	6.9
Three	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10. Total number of years in graduates school(s):						
One	20.5	26.1	22.7	17.6	42.9	25.0
Two	15.9	21.7	18.2	35.3	42.9	37.5
Three	31.8	17.4	27.3	17.6	14.3	16.7
Four	11.4	13.0	12.1	5.9	0.0	4.2
Five	11.4	13.0	10.6	5.9	0.0	4.2
Six or more	9.1	8.7	9.0	17.7	0.0	12.5
11. Major:						
Engineering	2.4	0.0	1.6	5.0	0.0	3.8
Professional: DDS, Law, MD, pharmacy	12.2	4.2	9.4	0.0	16.7	3.8
Business administration	4.9	0.0	3.1	15.0	0.0	11.5
Sciences: physics, chemistry, zoology, math	22.0	0.0	14.1	10.0	33.3	15.4

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
11. Major (cont'd):						
Social sciences: psychology, sociology, political science, therapies, counseling	34.1	45.8	37.5	20.0	16.7	19.2
Humanities: language, history, literature, English, liberal arts, fine arts, religion, philosophy	9.8	8.3	9.4	20.0	16.7	19.2
Education	7.3	33.3	17.2	25.0	0.0	19.2
Other, including agriculture	7.3	8.3	7.9	5.0	16.7	7.7
12. Master's degree received:						
None or no answer	64.1	65.5	65.1	70.8	83.3	75.6
M.A.	10.9	12.7	11.6	14.6	6.7	11.5
M.S.	12.0	7.3	10.3	4.2	10.0	6.4
M.Ed.	5.4	5.5	5.5	6.3	0.0	3.8
Other	7.6	9.1	7.5	4.2	0.0	2.6
13. Doctorate received						
Ph.D.	6.5	1.8	4.8	10.3	0.0	6.4
14. Did your education to this point prepare you for employment in your chosen field?						
No or no answer	(59.8)	(65.5)	(61.6)	(70.8)	(80.0)	(74.4)
Somewhat	10.8	5.3	8.9	14.3	16.7	15.0
15. If yes, for what field were you prepared?						
Business, industry	17.6	0.0	11.3	8.3	16.7	11.1
Government	2.9	0.0	1.9	8.3	0.0	5.6
Teaching	14.7	36.8	22.6	41.7	50.0	44.4
Research	23.5	5.3	17.0	8.3	16.7	11.1
Counseling	14.7	42.1	24.5	0.0	16.7	5.6
Other	26.5	15.8	22.6	33.4	0.0	22.2
16. If you were not prepared for employment, what was lacking?						
No comment	92.4	96.4	93.8	93.8	93.3	93.6
Further training	6.5	1.8	4.8	6.3	6.7	6.4
Job opportunities	1.1	1.8	1.4	0.0	0.0	0.0

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
17. In what ways could the college(s) you attended improve programs to better prepare the severely handicapped student for suitable employment?						
Don't know or no answer	(56.5)	(38.2)	(50.0)			
Improve counseling services	50.0	55.9	53.4			
Improve job placement services	17.5	11.8	13.7			
Better physical facilities	12.5	8.8	11.0			
Be more realistic	10.0	17.6	13.7			
Other	0.0	5.9	2.7			
18. How do you see college usefulness?						
Not answered	22.8	18.2	21.2	43.8	43.3	43.6
People need college to get the job they want	33.7	30.9	32.2	31.2	33.3	32.1
A college education helps a person get any job	35.9	41.8	38.4	20.8	20.0	20.5
College does not make a particular difference in getting a job	6.5	3.6	5.5	2.1	0.0	1.3
Other	1.1	5.5	2.7	2.1	3.3	2.6
19. Do you believe that aspects of college other than aca- [illegible] as the academic side of vocational preparation?						
Did not answer	(21.7)	(16.4)	(19.9)	(41.7)	(40.0)	(41.0)
Strongly agree	31.0	50.0	38.8	53.6	27.8	43.5
Agree	43.7	41.3	43.1	32.1	38.9	34.8
Indifferent	18.3	2.2	11.2	3.6	11.1	6.5
Disagree	2.8	2.2	2.6	10.7	16.7	13.0
Strongly disagree	4.2	4.3	4.3	0.0	5.6	2.2
20. What was most important to you in college, in retrospect?						
No response	(21.7)	(16.4)	(19.9)	(41.7)	(40.0)	(41.0)
All seemed important to me and still does	50.[illegible]	52.2	50.4	60.7	50.0	56.5
Academic	22.2	19.6	21.4	10.7	33.3	19.6

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
20. What was most important to you in college, in retrospect? (cont'd)						
Academic leading to vocational preparation	13.9	17.4	15.4	14.3	11.1	13.0
Social and personal life	13.9	10.9	12.8	14.3	5.6	10.9
21. Factors contributing most to overall development and general preparation for life while in college:						
Required (core) courses	25.7	14.6	19.7	16.7	22.2	18.8
Roommates and friends	16.0	21.4	18.5	15.5	20.4	17.3
Counseling or advisement	4.0	10.4	6.3	7.1	1.9	5.1
Athletics, sports	1.3	0.7	1.1	8.3	0.0	5.1
Elective courses	18.3	16.1	17.4	16.7	16.7	16.7
Organized extracurricular activities	5.0	2.2	4.3	9.5	1.9	6.5
General college spirit	6.3	7.4	6.8	4.8	11.1	7.3
Professors' attitude	11.0	8.2	10.5	10.7	9.3	10.2
Being away from home	9.6	14.6	11.6	3.6	14.6	7.9
Informal social activities	3.2	4.4	3.7	7.1	1.9	5.1
22. Factors contributing least to overall development and general preparation for life while in college:						
Required (core) courses	9.7	10.4	10.1	6.0	3.7	5.1
Roommates and friends	1.9	0.7	1.4	1.2	0.0	0.7
Counseling or advisement	18.9	14.2	17.1	17.9	16.7	17.4
Elective courses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Athletics, sports	19.9	25.9	21.9	20.2	33.3	25.4
Organized extracurricular activities	17.1	17.0	17.0	8.3	12.9	10.1
General college spirit	5.6	10.4	6.4	13.1	7.4	10.9
Professors' attitude	3.2	5.9	4.9	3.6	3.7	3.6
Being away from home	9.7	7.4	8.8	16.7	11.1	14.5
Informal social activities	11.1	5.9	9.8	6.0	9.3	7.3
23. Factors contributing most to satisfaction with college:						
Required (core) courses	12.9	10.8	11.9	9.5	12.9	10.9
Roommates and friends	24.0	23.7	23.9	26.2	25.9	26.0

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
23. Factors contributing most to satisfaction with college (cont'd):						
Counseling or advisement	2.3	3.7	2.9	2.4	0.0	1.5
Athletics, sports	6.5	2.9	5.1	13.1	0.0	7.9
Elective courses	15.7	20.0	18.1	16.7	18.5	17.5
Organized extracurricular activities	4.2	4.4	4.3	7.1	5.6	6.5
General college spirit	8.9	8.6	8.8	8.3	14.8	10.9
Professors' attitude	9.6	7.4	8.8	8.3	9.3	8.7
Being away from home	6.5	8.1	6.8	1.2	3.7	2.2
Informal social activities	9.3	10.4	9.4	7.1	9.3	7.0
24. Factors contributing least to satisfaction with college:						
Required (core) courses	16.7	9.6	15.1	9.5	5.6	7.9
Roommates and friends	1.8	2.2	1.7	1.2	0.0	0.7
Counseling or advisement	19.9	16.3	18.3	20.2	18.5	19.6
Athletics, sports	15.7	24.4	19.0	13.2	22.2	16.7
Elective courses	4.2	4.4	4.0	5.9	1.9	4.4
Organized extracurricular activities	15.3	14.8	14.9	9.5	18.5	13.2
General college spirit	6.5	7.4	6.8	13.1	5.6	10.1
Professors' attitude	3.7	8.9	5.7	2.4	12.9	6.5
Being away from home	7.4	6.7	7.1	16.7	7.4	13.0
Informal social activities	8.8	5.2	7.4	8.3	7.4	7.9
III. Employment Information						
1. Present job title:						
No response	(32.6)	(38.2)	(34.9)	(50.0)	(53.3)	(51.3)
Professional	40.3	29.4	35.8	16.7	1.4	18.4
Managerial	6.5	2.9	5.3	20.8	7.1	15.8
Clerical and sales	22.6	17.6	21.1	4.2	7.1	5.3
Service	9.7	8.8	9.5	4.2	0.0	2.6
Agriculture, fishery, etc.	1.6	0.0	1.1	0.0	0.0	0.0
Skilled	6.5	2.9	5.3	0.0	0.0	0.0
Semi- and unskilled	0.0	0.0	0.0	0.0	0.0	0.0
Teaching	3.2	20.0	9.5	37.5	57.1	44.7
Miscellaneous	9.7	17.6	12.6	16.7	7.1	13.2
2. Present job duties:						
No response	(32.6)	(40.0)	(35.6)	(52.1)	(53.3)	(52.6)
Service	29.0	69.7	42.6	4.3	14.3	8.1

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
2. Present job duties (cont'd):						
Business contact	11.3	3.0	8.5	26.1	7.1	18.9
Organization	22.6	3.0	16.0	13.0	7.1	10.8
Technology	8.1	6.1	7.4	43.5	28.6	37.8
Outdoor	1.6	0.0	1.1	0.0	0.0	0.0
Science	12.9	3.0	9.6	13.0	21.4	16.2
General cultural	0.0	6.1	2.1	0.0	7.1	2.7
Arts, entertainment	1.6	0.0	1.1	0.0	7.1	2.7
Miscellaneous	12.9	9.1	11.7	0.0	7.1	2.7
3. Present employer:						
No response	(34.8)	(43.6)	(38.4)	(54.2)	(53.3)	(53.8)
Agriculture	1.7	0.0	1.1	0.0	0.0	0.0
Mining	0.0	0.0	0.0	0.0	0.0	0.0
Contract construction	0.0	0.0	0.0	4.5	0.0	2.8
Transportation, communication	5.0	0.0	3.3	4.5	0.0	2.8
Wholesale-retail trade	1.7	6.5	3.3	0.0	7.1	2.8
Finance, insurance, banking	8.3	3.2	6.7	4.5	0.0	2.8
Service, public utilities	50.0	67.7	55.6	59.1	85.7	69.4
Government	21.7	16.1	20.0	27.3	7.1	19.4
4. Hours worked per week:						
No response	(34.8)	(43.6)	(38.4)	(56.3)	(56.7)	(56.4)
Up to 9	0.0	3.2	1.1	0.0	7.7	2.9
10 - 19	5.0	3.2	4.4	0.0	0.0	0.0
20 - 29	5.0	0.0	3.3	0.0	0.0	0.0
30 - 39	20.0	32.3	23.3	9.5	30.8	17.6
40 - 49	58.3	58.1	58.9	57.1	53.8	55.9
[illegible]	11.7	3.2	8.9	33.3	7.7	23.5
5. To what degree do you believe your present job duties are related to your college education?						
No response	(31.5)	(34.5)	(32.9)	(52.1)	(53.3)	(52.6)
Almost totally related	30.2	33.3	30.6	52.2	57.1	54.1
More than half related	14.3	36.1	22.4	21.7	21.4	21.6
Half related, half unrelated	27.0	8.3	20.4	4.3	14.3	8.1
Less than half related	11.1	8.3	10.2	13.0	7.1	10.8
Almost totally unrelated	17.5	13.9	16.3	8.7	0.0	5.4

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
6. Approximately how well satisfied are you with your present job?						
No response	(31.5)	(34.5)	(32.9)	(52.1)	(53.3)	(52.6)
Completely dissatisfied	7.9	2.8	6.1	8.7	0.0	5.4
More dissatisfied than satisfied	12.7	5.6	10.2	4.3	7.1	5.4
About half and half	19.0	16.7	18.4	13.0	7.1	10.8
More satisfied than dissatisfied	38.1	41.7	38.8	34.8	42.9	37.8
Completely satisfied	22.2	33.3	26.5	39.1	42.9	40.5
7. Do you perform any job duties differently from someone who is not cerebral palsied?						
No	79.3	78.2	79.5			
Yes	20.7	21.8	20.5			
8. Explanation of differences in performance of job duties:						
Body-part differences	33.3	30.0	29.6			
Equipment modifications	22.2	10.0	18.5			
Other modifications	16.7	40.0	25.9			
Unique response	27.8	20.0	25.9			
9. What modifications had to be made for you to do your present job?						
Minor modifications	72.9	58.8	68.5			
Major (specified)	1.7	5.9	3.3			
10. How did you get your present job?						
No response	(31.5)	(36.4)	(33.6)	(52.1)	(53.3)	(52.6)
Through an agency	20.6	14.3	18.6	0.0	14.3	5.4
Through a friend or acquaintance	19.0	14.3	17.5	21.7	7.1	16.2
Through a family member	4.8	11.4	7.2	4.3	0.0	2.7
Through my own efforts	46.0	45.7	46.4	43.5	42.9	43.2
Other (specified)	9.5	14.3	10.3	30.4	35.7	32.4

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
11. Which best tells how you feel about changing your present job?						
No response	(30.4)	(32.7)	(31.5)	(50.0)	(53.3)	(51.3)
I would quit at once if I could get anything else to do	3.1	5.4	4.0	0.0	0.0	0.0
I would take almost any other job in which I could earn as much as I'm earning now	0.0	0.0	0.0	4.2	0.0	0.0
I would like to change both my job and my occupation	18.8	10.8	16.0	8.3	14.3	10.5
I would like to change my job for another in the same line of work	10.9	13.5	11.0	8.3	7.1	7.9
I'm not eager to change my job but would do so if I could get a better job	51.6	45.9	50.0	41.7	50.0	44.7
I can't think of any job for which I would change mine	10.9	10.8	11.0	29.2	7.1	21.1
I would not change my job for any other	4.7	13.5	8.0	8.3	21.4	13.2
12. How much of the time do you feel satisfied with your present job?						
No response	(30.4)	(32.7)	(31.5)	(50.0)	(53.3)	(51.3)
Never	4.7	0.0	3.0	0.0	0.0	0.0
Seldom	4.7	5.4	5.0	8.3	5.3	
Occasionally	4.7	5.4	5.0	4.2	7.1	5.3
About half the time	10.9	16.2	13.0	8.3	14.3	10.5
A good deal of the time	28.1	13.5	22.0	29.2	35.7	31.6
Most of the time	39.1	51.4	44.0	45.8	35.7	42.1
All of the time	7.8	8.1	8.0	4.2	7.1	5.3
13. To what extent did being cerebral palsied make it difficult for you to get a job?						
No response	(27.2)	(18.2)	(24.0)			
Considerably more difficult than for others	46.3	46.7	45.9			
About the same as for others	32.8	31.1	32.4			

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
13. To what extent did being cerebral palsied make it difficult for you to get a job? (cont'd)						
Less difficult than for others	0.0	0.0	0.0			
Considerably less difficult than for others	0.0	0.0	0.0			
14. To what extent does being cerebral palsied make it difficult for you to keep a job?						
No response	(30.4)	(21.8)	(27.4)			
Considerably more difficult than for others	4.7	9.3	6.6			
More difficult than for others	21.9	18.6	20.8			
About the same as for others	71.9	65.1	68.9			
Less difficult than for others	0.0	2.3	0.9			
Considerably less difficult than for others	1.6	4.7	2.8			
15. What do you feel accounts for the difficulty listed above?						
Must prove you are better worker	21.2	7.4	15.0			
Employer feels obligated to keep you	3.0	0.0	1.7			
Physical inability to compete	18.2	25.9	21.7			
Apparent manifestations of disability	18.2	7.4	13.3			
Person's ability	6.1	18.5	11.7			
Miscellaneous	33.3	40.7	36.7			
16. Of what help were those you contacted regarding your work problems?						
None	21.1	16.7	19.4	9.1	9.1	9.1
Little	26.3	16.7	22.4	9.1	0.0	4.5
Some	23.7	13.3	17.9	27.3	18.2	22.7
More than some	5.3	20.0	11.9	18.2	18.2	18.2
Much	15.8	33.3	23.9	36.4	54.5	45.5
Other	7.9	0.0	4.5	0.0	0.0	0.0

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
17. What does it take to do a really good job at the kind of work you do?						
No response	(32.6)	(27.3)	(30.8)	(47.9)	(43.3)	(46.2)
Don't know	3.2	0.0	2.0	4.0	0.0	2.4
Personal traits	48.4	75.0	58.4	64.0	82.4	71.4
Education	21.0	12.5	17.8	24.0	5.9	16.7
Hard work	6.5	5.0	5.9	0.0	5.0	2.4
Creativity and initiative	3.2	2.5	3.0	4.0	0.0	2.4
Other	17.7	5.0	12.9	4.0	5.9	4.8
18. How much ability do you believe it takes to do a really good job at the kind of work you do?						
No response	(32.6)	(30.9)	(32.2)	(52.1)	(40.0)	(47.4)
Very little	8.1	7.9	8.1	0.0	0.0	0.0
Some	4.8	0.0	3.0	0.0	5.6	2.4
About average	14.5	10.5	13.1	36.1	16.7	22.0
More than average	19.4	23.7	20.2	17.4	27.8	24.4
A lot	37.1	47.4	41.4	56.5	44.4	51.2
Other	16.1	10.5	14.1	0.0	0.0	0.0
19. How good would you say you are at doing this kind of work?						
No response	(29.3)	(23.6)	(27.4)	(50.0)	(40.0)	(46.2)
Very good	20.0	16.7	18.9	45.8	22.2	35.7
Better than average	40.0	52.4	44.3	45.8	72.2	57.1
Average or less	40.0	31.0	36.8	8.3	5.6	7.1
20. What do you think is the most important qualification of the ideal job?						
No response	(23.9)	(23.6)	(24.0)	(41.7)	(40.0)	(41.0)
Provide an opportunity to use my special aptitudes or abilities	29.8	3.12	30.2	28.6	28.5	28.5
Permit me to be creative and original	21.3	18.2	19.9	27.4	24.7	26.2
Enable me to look forward to a stable, secure future	22.2	19.2	21.6	9.5	9.7	9.6
Provide me with a chance to earn a good deal of money	7.9	2.5	5.7	8.3	12.0	9.6

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
21. What do you think is the most important qualification of the ideal job? (cont'd)						
Give me an opportunity to be helpful to others	16.4	26.5	20.2	22.6	25.1	23.6
Other (specified)	2.4	2.4	2.4	3.6	0.0	2.1
IV. General Adjustment						
1. What was (is) the happiest period of your life?						
No response	(25.0)	(16.4)	(21.9)	(41.7)	(40.0)	(41.0)
The past	2.9	2.2	2.6	0.0	5.6	2.2
The present	55.1	60.9	57.9	75.0	66.7	71.7
While I was in college	26.1	21.7	23.7	10.7	11.1	10.9
While I was in high school	8.7	6.5	7.9	10.7	11.1	10.9
When I was quite young	7.2	8.7	7.9	3.6	5.6	4.3
2. Why was the period above the happiest?						
Limitations of my handicap	4.5	2.2	3.6	0.0	0.0	0.0
Vocational	15.2	13.3	14.5	21.4	16.7	19.6
Personal	34.8	28.9	32.7	42.9	55.6	47.8
Interpersonal	7.6	13.3	9.1	7.1	0.0	4.3
Security	15.2	13.3	14.5	10.7	16.7	13.0
Marriage and family	10.6	24.4	16.4	10.7	5.6	8.7
Religion	3.0	0.0	1.8	0.0	0.0	0.0
Other	9.1	4.4	7.3	7.1	5.6	6.5
3. What are some of the things you're happiest about these days?						
No response	(31.5)	(16.4)	(26.0)	(41.7)	(43.3)	(42.3)
Financial	6.3	4.3	5.8	0.0	0.0	0.0
Limitations of my handicap	1.6	2.2	1.8	0.0	0.0	0.0
Vocational	28.6	23.9	26.4	32.1	23.5	28.9
Personal	22.2	15.2	19.5	14.3	35.3	22.2
Interpersonal	12.7	15.2	13.7	3.6	0.0	2.2
Security	7.9	8.7	8.1	7.1	5.9	6.7
Marriage and family	15.9	19.6	17.3	39.3	29.4	35.6

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
3. What are some of the things you're happiest about these days? (cont'd)						
Religion	1.6	8.7	4.6	0.0	0.0	0.0
Other	3.2	2.2	2.8	3.6	5.9	4.4
4. Taking all things together, how would you say things are these days?						
No response	(22.8)	(18.2)	(21.2)	(41.7)	(40.0)	(41.0)
Very happy	29.6	42.2	34.8	46.4	44.4	45.7
Pretty happy	52.1	46.7	49.6	46.4	50.0	47.8
Not too happy	18.3	11.1	15.7	7.1	5.6	6.5
5. Imagine a ladder with ten rungs. The top rung is number 10, and represents the best possible life. The bottom rung is number 1, and represents the worst possible life. On what rung do you think you are now?						
No response	(27.2)	(21.8)	(21.9)	(43.8)	(43.3)	(41.0)
1	0.0	0.0	0.0	0.0	0.0	0.0
2	4.4	4.6	4.5	0.0	5.9	2.3
3	7.4	0.0	4.5	0.0	0.0	0.0
4	3.0	4.6	3.6	3.7	0.0	2.3
5	17.8	11.5	15.5	22.2	17.6	20.5
6	7.4	16.2	11.0	18.5	0.0	11.4
7	23.3	24.4	23.8	18.5	29.4	22.7
8	30.8	22.2	27.3	37.0	30.3	34.1
9	1.5	12.0	5.3	0.0	11.8	4.5
10	4.4	4.6	4.5	0.0	5.3	2.3
6. Have you ever sought help or advice for your problems?						
No response	(66.3)	(43.6)	(57.5)	(85.4)	(76.7)	(82.1)
Psychological or psychiatric help	48.4	38.7	44.3	0.0	42.9	21.4
Religious help	19.4	45.2	31.1	28.6	14.3	21.4
Educational personnel help	3.2	0.0	1.6	0.0	0.0	0.0
Social agency help	9.7	3.2	6.6	0.0	0.0	0.0
Family help	3.2	0.0	1.6	0.0	0.0	0.0
Other	16.1	12.9	14.8	71.4	42.9	57.1

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
V. General Attitudes						
1. What three things, from the following list, give you the most satisfaction in your life?						
No response	(22.8)	(16.4)	(20.5)	(41.7)	(40.0)	(41.0)
Career or occupation	27.2	26.1	26.7	29.7	28.2	29.0
Family relationships	24.6	26.1	25.1	28.5	32.5	29.8
Leisure time or recreational activities	24.5	21.0	23.2	27.3	23.3	24.5
Participation in community affairs	7.9	6.5	7.4	5.9	1.9	4.4
Participation in activities directed toward national or international betterment	8.3	3.6	6.4	1.3	0.0	1.1
Religious beliefs and activities	7.5	16.6	11.1	7.2	15.0	10.2
2. College does not really equip you for life outside the campus:						
SA (strongly agree)	5.6	4.3	5.1	0.0	11.1	4.3
A (agree)	23.6	19.6	22.2	17.9	27.8	21.7
I (indifferent)	13.9	17.4	15.4	14.3	11.1	13.0
D (disagree)	37.5	37.0	37.6	50.0	27.8	41.3
SD (strongly disagree)	19.4	21.7	19.7	17.9	22.2	19.6
3. Most of what I learned in college is very worthwhile:						
SA	19.4	26.1	21.4	17.9	44.4	28.3
A	58.3	63.0	60.7	60.7	44.4	54.3
I	11.1	4.3	8.5	10.7	11.1	10.9
D	9.7	6.5	8.5	7.0	0.0	4.3
SD	1.4	0.0	0.9	3.6	0.0	2.2
4. A college education does more to break down values than to build up ideals:						
SA	4.2	0.0	2.6	0.0	0.0	0.0
A	9.7	4.3	7.7	3.6	0.0	2.2
I	20.8	4.3	14.5	17.9	16.7	17.4
D	38.9	45.7	41.0	53.6	33.3	45.7
SD	26.4	45.7	34.2	25.0	50.0	34.8

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
5. Charges of college production-line teaching methods are justified:						
SA	5.6	4.3	5.1	3.6	5.6	4.3
A	20.8	17.4	19.7	35.7	27.8	32.6
I	27.8	32.6	29.1	25.0	5.6	17.4
D	34.7	37.0	35.8	28.6	50.0	37.0
SD	11.1	8.7	10.3	7.1	11.1	8.7
6. My own university (college) did a very good job, in general, in fulfilling the educational goals I consider important:						
SA	22.2	21.7	22.2	10.7	38.9	21.7
A	55.6	58.7	56.4	53.6	44.4	50.0
I	13.9	4.3	10.3	10.7	11.1	10.9
D	6.9	8.7	7.7	25.0	5.6	17.4
SD	1.4	6.5	3.4	0.0	0.0	0.0
7. I would say that in general my professors in college thought of me as being like any other student in their classes:						
SA	25.0	32.6	28.2	3.6	22.2	10.9
A	62.5	45.7	56.4	50.0	38.9	45.7
I	4.2	8.7	6.0	14.3	0.0	8.7
D	8.3	8.7	7.7	28.6	33.3	30.4
SD	0.0	4.3	1.7	3.6	5.6	4.3
8. My college experience was excellent preparation for my working life:						
SA	18.3	19.6	19.0	7.1	16.7	10.9
A	39.4	39.1	38.8	57.1	55.6	56.5
I	19.7	23.9	21.6	14.3	22.2	17.4
D	14.1	8.7	12.1	17.9	5.6	13.0
SD	8.5	8.7	8.6	3.6	0.0	2.2

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
9. According to my experience, the attitude of the faculty at my college was discouraging for students with physical handicaps:						
SA	2.8	8.7	5.1	0.0	0.0	0.0
A	1.4	2.2	1.7	3.6	11.1	6.5
I	6.9	8.7	7.7	25.0	5.6	17.4
D	44.4	43.5	43.6	32.1	44.4	37.0
SD	44.4	37.0	41.9	39.3	38.9	39.1
10. It seems to me that the faculty were unknowingly overhelpful:						
SA	1.4	0.0	0.9	0.0	0.0	0.0
A	1.4	4.3	2.6	10.7	11.1	10.9
I	23.6	8.7	17.1	39.3	22.2	32.6
D	58.3	58.7	59.0	46.4	55.6	50.0
SD	15.3	28.3	20.5	3.6	11.1	6.5
11. As I see it, a cerebral palsied student, at least in my college, doesn't have any more difficulty in making friends than anyone else:						
SA	29.2	21.7	25.6			
A	41.7	41.3	41.9			
I	9.7	6.5	8.5			
D	13.9	21.7	17.1			
SD	5.6	8.7	6.8			
12. I am well satisfied with the kind of college education I have obtained:						
SA	22.2	22.2	22.2	14.3	11.1	13.0
A	51.4	48.9	50.0	46.4	72.2	56.5
I	11.1	2.2	7.8	14.3	0.0	8.7
D	15.3	22.2	18.1	21.4	16.7	19.6
SD	0.0	4.4	1.7	3.6	0.0	2.2

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=117) %
13. Persons with cerebral palsy have a difficult time getting married:						
SA	15.7	19.6	17.4			
A	30.0	37.0	32.2			
I	35.7	13.0	27.0			
D	12.9	23.9	17.4			
SD	5.7	6.5	6.1			
14. Persons with cerebral palsy should not marry persons with cerebral palsy for fear that their children will be cerebral palsied:						
SA	0.0	0.0	0.0	0.0	0.0	0.0
A	1.4	2.2	1.7	0.0	0.0	0.0
I	20.8	6.5	14.5	46.4	27.8	39.1
D	16.7	32.6	23.1	25.0	61.1	39.1
SD	61.1	58.7	60.7	28.6	11.1	21.7
15. According to my experience, the counseling one receives in college really helps one meet the problems of life:						
SA	1.4	6.7	3.4	3.6	0.0	2.2
A	20.8	26.7	22.4	25.0	16.7	21.7
I	44.4	28.9	38.8	53.6	22.2	41.3
D	19.4	17.8	19.0	14.3	33.3	21.7
SD	13.9	20.0	16.4	3.6	27.8	13.0
16. I believe that aspects of college other than academic, such as social or personal are just as important as the academic side of vocational preparation:						
SA	29.2	37.0	32.5	37.0	55.6	44.4
A	51.4	56.5	53.0	51.9	27.8	42.2
I	11.1	2.2	7.7	0.0	11.1	4.4
D	6.9	2.2	5.1	11.1	5.6	8.9
SD	1.4	2.2	1.7	0.0	0.0	0.0

	Cerebral Palsied			Non-Impaired		
	Male (N=72) %	Female (N=45) %	Total (N=117) %	Male (N=28) %	Female (N=18) %	Total (N=46) %
17. Some people say that a person who has cerebral palsy has an easier time making friends than the typical non-disabled person:						
SA	2.8	0.0	1.7			
A	8.3	6.5	7.7			
I	37.5	23.9	32.5			
D	33.3	52.2	40.2			
SD	18.1	17.4	17.9			
18. My present job is like the work I hoped to do when I finished college:						
SA	12.9	30.2	19.6	17.9	44.4	28.3
A	32.9	16.3	25.9	50.0	38.9	45.7
I	18.6	9.3	15.2	7.1	5.6	6.5
D	14.3	23.3	17.9	14.3	5.6	10.9
SD	21.4	20.9	21.4	10.7	5.6	8.7
19. My cerebral palsy negatively influences the attitudes of others toward me:						
SA	4.2	2.2	3.4			
A	14.1	19.6	16.4			
I	22.5	15.2	19.8			
D	40.8	45.7	42.2			
SD	18.3	17.4	18.1			
20. My cerebral palsy negatively influences the attitudes of employers toward me:						
SA	18.3	15.6	17.4			
A	29.6	31.1	29.6			
I	12.7	15.6	13.9			
D	28.2	26.7	27.8			
SD	11.3	11.1	11.3			
21. My cerebral palsy negatively influences the attitudes of my co-workers toward me:						
SA	5.6	0.0	3.5			
A	4.2	8.9	6.1			
I	12.7	22.2	16.5			
D	49.3	48.9	48.7			
SD	28.2	20.0	25.2			

APPENDIX F

SUPPLEMENTARY STATISTICAL FINDINGS FOR THE FOLLOW-UP STUDY

TABLE 1

Analysis of Variance of Jobs Satisfaction, Skill Level, and Earnings on Undergraduate Vocational Orientated Major

Variable	Source of Variance	SS	df	MS	F	p
Job Satisfaction	Between	13.7160	2	6.8580	1.4080	ns*
	Within	433.5005	89	4.8708		
Skill Level	Between	4.9333	2	2.4667	1.4945	ns
	Within	146.8923	89	1.6505		
Earnings	Between	29.6875	2	14.8438	2.1912	ns
	Within	602.9182	89	6.7744		

*Critical Value $F.05_{(2,89)} = 3.08$

TABLE 2

Analysis of Variance of Skill Level on Job Satisfaction

Variable	Source of Variance	SS	df	MS	F	p
Skill Level	Between	2.0817	1	2.0817	1.2512	ns*
	Within	149.7440	90	1.6638		

*Critical Value $F.05_{(1,90)} = 3.96$

TABLE 3

Comparison of Personal Characteristics with ERS Ratings for Employed Cerebral Palsied College Students Using Simple Randomized Analysis of Variance

Undergraduate Grade Point Average for Employment Relatedness Rating Groups

Analysis Table

Source	df	m.s.	F
Groups: ERS Ratings	4	35.707	5.037*
Within Groups	98	7.047	

Ohio State Psychological Examination Standard Scores for Employment Relatedness Scale Groups

Analysis Table

Source	df	m.s.	F
Groups: ERS Ratings	4	12.930	0.188
Within Groups	47	69.024	

Uses of Help for Employment Relatedness Scale Groups

Analysis Table

Source	df	m.s.	F
Groups: ERS Ratings	4	0.256	0.403
Within Groups	47	0.636	

TABLE 3 (cont'd)

Ratings of College Adjustment and Employment Relatedness Scale Groups

Analysis Table

Source	df	m.s.	F
Groups: ERS Ratings	4	3.109	1.486
Within Groups	47	2.092	

Subject's Self Rating of Disability and Employment Relatedness Scale Groups

Analysis Table

Source	df	m.s.	F
Groups: ERS Ratings	4	0.183	0.463
Within Groups	98	0.395	

Intelligibility of Speech Ratings and Employment Relatedness Scale Groups

Analysis Table

Source	df	m.s.	F
Groups: ERS Ratings	4	1.603	1.464
Within Groups	45	1.093	

Subject's Expression of General Adjustment and Employment Relatedness Scale Groups

Analysis Table

Source	df	m.s.	F
Groups: ERS Ratings	4	8.063	1.443
Within Groups	98	5.588	

TABLE 3 (cont'd)

Socio-economic Status of Subjects During College and Employment Relatedness Scale Groups

Analysis Table

Source	df	m.s.	F
Groups: ERS Ratings	4	22.222	0.093
Within Groups	34	418.186	

*Significant at the .05 level

TABLE 4

Mean Differences: Undergraduate GPS Means for Each ERS Rating Level for Employed Post-College Cerebral Palsied Students

ERS Levels	Means	Mean Differences 2	3	4	5
1	4.10	1.186	1.520	0.976	2.246*
2	2.91		2.706*	2.162*	3.432*
3	5.62			0.544	0.726
4	5.07				1.270
5	6.34				

*Significant at the .005 level

TABLE 5

Means and Mean Differences at High and Low ERS Ratings of MMPI Standard Scores for Male and Female CPCS

	Male (N=36) ERS Means			Female (N=21) ERS Means		
MMPI Scale	High	Low	Diff	High	Low	Diff
L	45.1	47.4	0.7	48.4	50.3	-1.9
F	60.5	55.3	5.2	52.9	52.6	0.3
K	56.0	55.5	0.5	56.6	57.3	-0.7
1 Hypochondrasis	55.9	56.8	0.9	51.6	54.2	-2.6
2 Depression	57.8	63.7	-5.9	52.8	58.3	-5.5
3 Hysteria	62.5	61.1	1.4	57.8	60.8	-3.0
4 Psychopathic Deviate	58.3	63.6	-5.3	57.1	60.8	-3.7
5 Masculinity-Femininity	65.7	58.5	7.2	43.3	45.5	-2.2
6 Paranoid	59.0	62.1	3.1	58.4	57.2	1.2
7 Psychasthenia	61.2	69.2	-8.0	57.6	56.8	0.8
8 Schisophrenia	64.1	72.5	-8.4	61.1	61.2	-0.1
9 Hypomania	58.3	58.5	-0.2	55.7	57.3	-1.6
10 Social Introversion	52.3	56.7	-4.4	56.9	52.5	5.5
11 A First Factor	51.2	56.4	-5.2	50.1	47.2	2.9
12 R Second Factor	53.0	51.1	1.9	50.2	51.8	-1.6
13 Ego Strength	56.2	52.2	4.0	53.3	57.0	-3.7
14 Dominance	58.1	53.2	4.9	54.6	57.5	-2.9

TABLE 6

Differences Between High and Low ERS Groups of CPCS of Various Attitude Statements

Summary Table

Source	df	m.s.	F
Between Subjects	102	1.705	
ERS Ratings	1	0.308	0.302
Error (b)	101	1.717	
Within Subjects	2060	2.708	
General Attitudes	20	97.935	55.352*
Interaction	20	2.347	1.326
Error (w)	2020	1.796	

Observed Differences Between 21 Means of General Attitudes at High and Low Levels of Employment Relatedness

General Attitudes[1]	ERS Rating Means High	Low	Observed Difference
1	1.3	1.1	0.2
2	0.3	0.1	0.2
3	1.5	1.5	0.0
4	3.8	3.9	-0.1
5	2.2	2.1	0.1
6	2.1	2.0	0.1
7	2.2	2.0	0.2
8	2.1	2.1	0.0
9	2.0	2.0	0.0
10	1.9	1.9	0.0
11	0.7	0.9	-0.2
12	1.7	1.8	-0.1
13	3.5	3.8	-0.3
14	1.3	1.2	0.1
15	1.8	1.9	-0.1
16	4.1	3.5	-0.6**
17	1.6	1.6	0.0

TABLE 6 (cont'd)

General Attitudes[1]	ERS Rating Means High	 Low	Observed Difference
18	1.6	2.6	-1.0**
19	1.2	1.7	-0.5
20	0.6	0.6	0.0
21	0.8	1.0	-0.2

[1] A complete listing of attitudes is in Appendix B. Numbers are used here for convenience.

* Significant at the .05 level
** Significant at the .005 level

TABLE 7

Comparison of Selected Vocational Behaviors and Relatedness of Employment to Education for CPCS

Job Satisfaction: Subject's Expression About His Feeling Regarding Changing His Job

Simple Randomized Analysis of Variance: Summary Table

Source	df	m.s.	F
Groups: ERS Ratings	4	15.251	5.557**
Within Groups	98	2.744	

Table of Mean Differences: Job Satisfaction Means (Subject's Expression of Feelings About Changing His Job) at Each Rating Classification (1 to 5) on the Employment Relatedness Scale

		Mean Differences			
	Means	2	3	4	5
1.	2.810	1.554	1.344	2.047*	1.963*
2.	4.364		0.210	0.493	0.409
3.	4.154			0.703	0.619
4.	4.857				0.084
5.	4.773				

** Significant beyond the .05 level
* Significant beyond the .005 level

TABLE 8

Mean MMPI Scores of Low and High Job Satisfaction CPCS Groups

Scale	Job Satisfaction Lows N=32	 Highs N=28	Difference
1. Hypochondriasis	57.52	52.16	5.36
2. Depression	62.28	54.44	7.84*
3. Hysteria	62.66	59.34	3.32
4. Psychopathic Deviate	63.45	56.50	6.95*
5. Paranoia	62.79	57.66	5.13
6. Psychothenia	65.20	58.25	6.95*
7. Schizophrenia	69.93	60.44	9.49*
8. Manic-Dpressive	58.79	57.06	1.73
9. Social Introversion	57.24	51.49	5.65*
10. Factor A	56.03	47.19	8.84*
11. Factor R	50.86	49.22	1.64
12. Ego Strength	50.69	56.19	5.50*
13. Dominance	54.10	55.72	1.62

* Significant at the .05 level

TABLE 9

Differences Between Pre-Interview and Follow-Up Attitudes of CPCS Toward College, Education and Work (N=69)

Item	Pre-Interview	Follow-Up	Difference
1. "I would say that in general my professors in college think (thought) of me as being like any other student in their class."	1.84	2.04	.20
2. "According to my experience, the attitude of the faculty at my college is (was) discouraging for students with physical disability."	4.25	4.13	.12
3. "It seems to me that the faculty are (were) unknowingly over-helpful."	3.67	4.03	.36*
4. "As I see it, a cerebral palsied college student, at least in my college, doesn't have any more difficulty in making friends than anyone else."	2.09	2.48	.39*
5. "I am well satisfied with the kind of college education I am getting (have obtained)."	1.91	2.29	.38*
6. Social life as important as academic.	1.75	1.88	.13
7. College does not really equip you for life outside the campus.	2.99	3.41	.42*

TABLE 9 (cont'd)

Item	Pre-Interview	Follow-Up	Difference
8. Most of what I am learning (or learned) in college is very worthwhile.	1.72	2.10	.38*
9. A college education does more to bread down values than to build up ideals.	3.13	3.91	.78*
10. Charges of "production line" teaching methods are justified.	2.43	3.25	.82*
11. My own university (or college is doing a very good job, in general, in fulfilling the educational goals I consider important.	1.75	2.25	.50*

APPENDIX G

Colleges Attended by Students Participating in the Cerebral Palsied College Student Study

Name of Institution	City Location	Number Listing[1]
Adelphi College	Garden City, Long Island	2
Adrian College	Adrien, Michigan	1
American University	Washington, D. C.	1
Augsburg	Minneapolis, Minnesota	2
Bard College	Annandale-on-Hudson, N. Y.	1
Bearer	Jenkintown, Pennsylvania	2
Bergen Junior College	Teaneck, N. J.	1
Bluffton College	Bluffton, Ohio	1
Boston University	Boston, Massachusetts	1
Bowling Green State University	Bowling Green, Ohio	1
Brigham Young University	Proro, Utah	1
Burlington Junior College	Burlington, Iowa	1
Central College	Fayette, Missouri	1
University of Chicago	Chicago, Illinois	3
Chicago Musical College	Chicago, Illinois	1
Coe College	Cedar Rapids, Iowa	1
Colorado University	Fort Collins, Colorado	1
Columbia University	New York City	1
Crane	Chicago, Illinois	1
Creighton University	Omaha, Nebraska	1
Creston	Creston, Iowa	1
Culver-Stockton College	Canton, Missouri	1
Depaul University	Chicago, Illinois	1
University of Detroit	Detroit, Michigan	1
Drury College	Springfield, Missouri	1
Dyke College	Cleveland, Ohio	1
Fordham College	New York City	1
Franklin and Marshall College	Lancaster, Pennsylvania	1
Georgetown University	Washington, D. C.	2
Glassboro State College	Glassboro, N. J.	1
Goucher College	Towson, Maryland	1
Grace Bible Institute	Omaha, Nebraska	1
Graceland	Lamoni, Iowa	1
Gustavus Adolphus	St. Peter, Minnesota	1
Harcum College	Bryn Mawr, Pennsylvania	1
Harding College	Searcy, Arkansas	1
University of Hawaii	Honolulu, Hawaii	1
Heidelberg	Tiffin, Ohio	1
Henry Ford Community	Dearborn, Michigan	1
University of Illinois	Champaigne, Illinois	10

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[1] This includes institutions attended at the time of the study, schools graduated from, and schools which were previously attended and left.

Name of Institution	City Location	Number Listing
Illinois Normal University	Normal, Illinois	3
Immaculata College	Immaculata, Pennsylvania	1
Iona College	New Rochelle, N. Y.	1
University of Iowa	Iowa City, Iowa	2
Iowa State Teachers College	Cedar Fall, Iowa	1
John Carroll University	Cleveland, Ohio	1
Joplin Junior College	Joplin, Missouri	1
Kalamazoo College	Kalamazoo, Michigan	2
Kansas City Art Institute	Kansas City, Missouri	1
Kansas City University	Kansas City, Missouri	1
Kansas City Junior College	Kansas City, Missouri	1
K. S. C. Pittsburg	Pittsburg, Kansas	3
Kansas State Teachers College	Emporia, Kansas	2
Kearney State Teachers College	Kearney, Nebraska	1
Keokuk Junior College	Keokuk, Iowa	1
Loras College	Dubuque, Iowa	1
University of Louisville	Louisville, Kentucky	1
Macalester	St. Paul, Minnesota	2
Marquette University	Milwaukee, Wisconsin	3
University of Miami	Coral Gables, Florida	1
Miami University	Oxford, Ohio	1
Michigan State University	Lansing, Michigan	1
University of Minnesota	Mimmeapolis, Minnesota	4
Missouri University	Columbia, Missouri	4
Missouri Valley College	Marshall, Missouri	1
Morningside College	Sioux City, Iowa	1
Morton Junior College	Cicero, Illinois	1
Mullenberg College	Allentown, Pennsylvania	1
Nasson	Springvale, Maine	1
New York University	New York City	1
New York City Technological	Brooklyn, N. Y.	1
University of Nebraska	Lincoln, Nebraska	3
Norfolk Junior College	Norfolk, Nebraska	1
North Dakota A. C.	Richardton, North Dakota	1
Northwestern University	Evanston, Illinois	1
Notre Dame For Women	Cleveland, Ohio	1
Ohio University	Athens, Ohio	1
Oliret College	Oliret, Michigan	1
Omaha University	Omaha, Nebraska	1
Portland University	Portland, Maine	1
Purdue	Lafayette, Indiana	1
Queens College	Flushing, New York	2
Ripon	Ripon, Wisconsin	2
Roosevelt University	Chicago, Illinois	1
Rutgers	Paterson, New Jersey	1
St. Cloud State College	St. Cloud, Minnesota	2
St. Johns University	Brooklyn, New York	3
St. Joseph Junior College	St. Joseph, Missouri	1
St. Louis University	St. Louis, Missouri	1
St. Peters College	Jersey City, New Jersey	1

Name of Institution	City Location	Number Listing
Southeast Missouri State College	Cape Girardeau, Missouri	1
Southwest Missouri State College	Springfield, Missouri	1
University of Southern California	Los Angeles, California	1
Southern Illinois University	Carbondale, Illinois	5
Sterling College	Sterling, Kansas	1
Swarthmore	Swarthmore, Pennsylvania	1
Syracuse University	Syracuse, New York	1
Temple University	Philadelphia, Pennsylvania	1
Wagner	Stanton Island, New York	1
Washington University	St. Louis, Missouri	1
Wayne State Teachers	Wayne, Nebraska	2
Wayne State University	Detroit, Michigan	2
Weslayen University	Middletown, Connecticut	1
Wesley Junior College	Dover, Delaware	1
Westchester College	Valhalla, New York	2
Western Michigan University	Kalamazoo, Michigan	1
Westhampton	Richmond, Virginia	1
Westminister College	Fulton, Missouri	1
Wheaton College	Wheaton, Illinois	2
University of Wichita	Wichita, Kansas	1
William Penn	Oskaloosa, Iowa	1
William Woods	Fulton, Missouri	1
Winona State College	Winona, Minnesota	1
University of Wisconsin	Milwaukee, Wisconsin	3
Wisconsin State College	Milwaukee, Wisconsin	4
Wisconsin State Teachers College	Platterville, Wisconsin	1

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